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PERSONALS.

Mr. Isaac L. Tueas has been elected Superintendent of Streets at Dover, N. H.

Mr. A. Egerton Adams, Pres. of the Chicago Forge & Bolt Co., died last week, at the age of 55.

Mr. Charles H. Bulkley, President of the Board of Park Commissioners, of Cleveland, O., died Dec. 29, at the agé of 53.

Mr. Oscar G. Murray has been appointed Third Vice-President and General Manager of the Chesapeake & Ohio Ry.

Mr. A. P. Stockwell has opened an office for a general engineering business in the Republican Building, Springfield, Mass.

Mr. F. M. Thomas, of the engineer corps of Syracuse, N. Y., was married Jan. 1 to Miss Caroline T. Lucas, at Hagerstown, Md.

Mr. Thomas Orchard, for several years Master Car Builder of the Delaware & Hudson R. R., died at Carbondale, Pa., recently, at the age of 75.

Mr. W. D. Trump has been appointed Assistant to the General Manager of the Flint & Pere Marquette R. R., with headquarters at Saginaw, Mich.

Mr. J. L. White has resigned his position as Superintendent of Bridges and Buildings of the Texas Midland R. R., and is at present located at Claude, Tex.

Mr. William Barclay has been elected County Engineer of Kaw County, Kan., with office at Kansas City, Kan. He was at one time City Engineer of Argentine, Kan.

Mr. John Stewardson, architect, and memoer of the firm of Cope & Stewardson, Philadelphia, Pa., was drowned in the Schuylkill River, while skating, Jan. 6.

Mr. W. T. Morgan has been appointed Superintendent of the Shenango Valley Electric Street Ry., at Sharon, Pa., to succeed Mr. Frank D. Runser, who has resigned.

Mr. Henderson S. Moulton has been appointed Superintendent of Water-Works at Willimantic, Conn., and Mr. Thomas J. Roberts has been appointed Superintendent of Streets.

Mr. Robert E. Peary, civil engineer, U. S. N., gave a lecture on "Across the Ice from Whale Sound to Independence Bay," before the Geographical Society of Philadelphia, Pa., on Jan. 8.

Mr. L. T. Myers, formerly Superintendent of the Atlantic Coast Line R. R., has been appointed by the Postmaster General Assistant General Superintendent of the Railway Mail Service.

Mr. H. V. Hinckley, M. Am. Soc. C. E., has been appointed by the Commissioners of Shawnee County, Kan., to have charge of construction of the Melan bridge to be built in the city of Topeka, Kan.

Mr. A. M. Tucker, General Manager of the Chicago & Erie R. R. and the New York, Pennsylvania and Ohio R. R., has now the title of General Agent of the Erie R. R., with headquarters at Cleveland, O.

Mr. J. J. Casey has resigned his position as Assistant Superintendent of Motive Power of the Illinois Central R. R., to accept that of Superintendent of the Haskell & Barker Car Co., of Michigan City, Ind.

Mr. Frederick Le Noir, Electrician for the Fitchburg & Leominster Electric Ry., has been appointed Superintendent of the Gardner Electric Ry., at Gardner, Mass., to succeed Mr. M. A. Coolidge, resigned.

Mr. H. C. Litchfield, Assoc. M. Inst. C. E., has been appointed by the government of Cape Colony, South Africa, as District Inspector of Public Works for the district of Bechuanaland, with headquarters at Vryburg.

Mr. A. F. Fraser, Superintendent of the Alabama Great Southern Ry., at Birmingham, Ala., has been appointed Superintendent of the Sixth Division of the Southern Ry., to succeed Mr. J. N. Ross, resigned.

Mr. F. H. Alfred, Ch. Clk. to the Ch. Engr. of the Columbus, Hocking Valley & Toledo R. R., has resigned to accept a position as Assistant Engr. on the Denver & Rio Grande R. R., with office at Salida, Colo.

Mr. George Olds, General Traffic Manager of the Canadian Pacific Ry., has resigned on account of advancing years, and the office has been abolished. The traffic department will be in charge of the Freight Traffic Manager, Mr. G. N. Bosworth and the Passenger Traffic Manager, Mr. D. McNicholl.

Mr. John Hays Hammond, M. Am. Inst. Min. Engrs., Mining Engineer for the British South Africa Co., is one of the Americans included in the recent arrest of the Reform Committee at Johannesburg, as a result of the troubles in the Transvaal. Mr. Mein, Chief Engineer of the Robinson Gold Mining Co., and Mr. Charles Butters, who is connected with the Rand Ore Reduction Co., are also among those arrested.

Mr. Thomas Prosser, Sr., who for 40 years has been the American representative of the Krupp steel works in Germany, died at Brooklyn, N. Y., last week at the age of 67. He was born in England and came to this country when but 9 years of age, his father engaging in the steel business at Paterson, N. J. Later he established a house in Gold St., New York city, where he became the Krupp's representative in 1852, and continued as such until the present time.

Mr. H. E. Riggs, A. M. Soc. C. E., has opened an office at 424 Nasby Bldg., Toledo, O., where he will carry on a general practice in engineering, and will also represent the Osborn Co., Inspecting Engrs., in Northwestern Ohio and Michigan. He recently resigned as Chief Engineer of the Toledo, Ann Arbor & North Michigan R. R., and during his term of office the whole line has been practically reconstructed. He has had an experience in municipal and railway engineering covering a period of about 10 years, and his specialties will be the furnishing of reports, plans and estimates in their lines.

ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

ENGINEERS' CLUB OF PHILADELPHIA.
Jan. 18. Secy., L. F. Rondinella, 1122 Girard St.
ENGINEERS' CLUB OF MINNEAPOLIS.
Jan. 20. Secy., E. Nelson, Kasota Block.
COLUMBIAN ENGINEERING SOCIETY.
Jan. 21. Secy., W. F. Hart, University Bldg., 15th and H Sts., N. W., Washington, D. C.
WESTERN RAILWAY CLUB.
Jan. 21. Secy., W. D. Crossman, Owings Bldg., Chicago.
ENGINEERING ASSOCIATION OF THE SOUTH.
Jan. 23. Secy., Lucius P. Brown, Nashville, Tenn.
WISCONSIN POLYTECHNIC SOCIETY.
Jan. 28. Secy., W. K. Means, Loan & Trust Bldg., Milwaukee.
CANADIAN SOCIETY OF CIVIL ENGINEERS.
Jan. 30. Secy., C. H. McLeod, Montreal.
ENGINEERS' CLUB OF COLUMBUS, O.
Feb. 1. Secy., David Buel.
ENGINEERING SOCIETY OF WESTERN NEW YORK.
Feb. 3. Secy., Geo. R. Sikes, 122 Pearl St., Buffalo, N.Y.
CIVIL ENGINEERS' SOCIETY OF ST. PAUL.
Feb. 3. Secy., G. L. Annan, City Engineers' Office.
ENGINEERS' CLUB OF ST. LOUIS.
Feb. 5. Secy., W. H. Bryan, Turner Block.
AMERICAN SOCIETY OF CIVIL ENGINEERS.
Feb. 5. Secy., C. W. Hunt, 127 E. 23d St., New York.
WESTERN SOCIETY OF ENGINEERS.
Feb. 5. Secy., Charles J. Roney, Monadnock Block, Chicago.
TECHNICAL SOCIETY OF THE PACIFIC COAST.
Feb. 7. Secy., O. H. Von Geldern, 819 Market St., Francisco.
MONTANA SOCIETY OF CIVIL ENGINEERS.
Feb. 8. Secy., Forrest J. Smith, Denver Block, Helena.
INDIANAPOLIS ENGINEERING CLUB.
Feb. 8. Secy., C. C. Brown.
ENGINEERS' CLUB OF KANSAS CITY.
Feb. 10. Secy., F. W. Tuttle, Baird Bldg.
CIVIL ENGINEERS' CLUB OF CLEVELAND.
Feb. 11. Secy., F. A. Colburn, Case Library Bldg.
DENVER SOCIETY OF CIVIL ENGINEERS.
Feb. 11. Secy., H. Breen, 36 Jacobson Block.
NORTHWEST RAILWAY CLUB.
Feb. 11. Secy., G. A. Seley, 80 Metropolitan Block, St. Paul, Minn.
NORTHWESTERN SOCIETY OF ENGINEERS.
Feb. 11. Secy., D. W. Morris, Burke Bldg., Seattle, Wash.
NEW ENGLAND RAILROAD CLUB.
Feb. 12. Secy., F. M. Curtis, P. O. Box 1576, Boston, Mass.
ENGINEERS AND ARCHITECTS' CLUB OF LOUISVILLE.
Feb. 13. Secy., Jas. K. Zollinger, Norton Bldg.
ENGINEERS AND ARCHITECTS' ASSOCIATION OF SOUTHERN CALIFORNIA.
Feb. 19. Secy., F. Van Vleck, Los Angeles, Cal.
ASSOCIATION OF ENGINEERS OF VIRGINIA.
Feb. 19. Secy., J. A. Pilcher, Roanoke, Va.
BOSTON SOCIETY OF CIVIL ENGINEERS.
Feb. 19. Secy., S. E. Tinkham, City Hall.
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
Feb. 19. Secy., R. W. Pope, 26 Cortlandt St., New York.
NEW YORK RAILROAD CLUB.
Feb. 20. Secy., W. G. Wattson, West Shore R. R., Weehawken, N. J.
ENGINEERS CLUB OF CINCINNATI.
Feb. 20. Secy., J. F. Wilson, Oddfellows Temple.
ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA,
Feb. 20. Secy., Daniel Carhart, Pittsburg, Pa.
ASSOCIATION OF ONTARIO LAND SURVEYORS.
Feb. 25. Annual meeting at Toronto. Secy., A. J. Van Nostrand, Toronto, Ont.
CENTRAL RAILWAY CLUB.
March 13. Secy., H. D. Vought, "Courier" Office, Buffalo, N. Y.
NORTHWESTERN TRACK AND BRIDGE ASSOCIATION.
March 13. Secy., D. W. Meeker, St. Paul, Minn.
SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.
April 16. Secy., F. A. Charpiot, Macon, Ga.

CIVIL ENGINEERS' SOCIETY OF ST. PAUL.—At the annual meeting, on Jan. 6, all the officers were re-elected. A committee was appointed to consider and report upon so much of the Parker retrenchment committee's report as related to the city engineer's department. Mr. A. H. Hoagland gave a description of the effect of earth slides on the Great Northern Ry. bridges which cross the Red River of the North and its tributaries. Mr. C. F. Loweth described the circumstances of the movement of pier No. 1 of the Northern Pacific R. R. bridge at Bismarck. Secy., C. L. Annan.

ENGINEERS' AND ARCHITECT CLUB OF LOUISVILLE.—At the annual meeting, on Jan. 9, the election of officers resulted as follows: President, C. J. Clark; Vice-President, Webster Gazlay; Secretary, J. R. Zollinger; Board of Directors, J. M. Johnson, W. B. Blake Marshall Morris, C. J. Snead and Charles Hermany.

INDIANA HIGHWAY IMPROVEMENT ASSOCIATION.—The fourth annual meeting was held at Indianapolis, Jan. 8. The President, Mr. J. A. Mount, delivered an address on "The Need of Better Roads." Prof. C. H. J. Goss read a paper on "The Engineering of Road Construction," and Mr. Evans Woollen read a paper on "Convict Labor on the Public Roads."

NEW ENGLAND WATER-WORKS ASSOCIATION.—At the quarterly meeting, on Jan. 8, Dr. Theobald Smith, of the State Board of Health, read a paper on "The Transmission of Disease Germs in Drinking Water." He noted the increasing density and the continual movement of population as the two most fruitful sources of danger from water pollution. Owing to such changes of conditions it was not possible always to take necessary precautions, and in that way the scourge of disease broke out before the danger of its approach was even intimated. He thought the breaking out of war would convince the public of the great activity of disease germs as they could be convinced in no other way, for then the restraints civilization has placed upon them would be taken away, and the rapid movement of vast bodies would give the water courses an unprecedented opportunity for spreading the germs of inoculated feces. He stated most emphatically that sewage-polluted water was dangerous.

CENTRAL RAILWAY CLUB.—At the meeting on Jan. 10 the Secretary and Treasurer, Mr. Harry D. Vought, submitted his annual report, showing a net increase of 48 members and a balance in the treasury. The report from the committee on the "Safe-Ending of Boiler Tubes," was read by the chairman, Mr. J. H. Moore. The report gave the results obtained from tests which showed that the lap-welded safe-end to tubes when properly made is preferable to the butt-welded, inasmuch as the butt-weld will give way at the weld, while lap-weld will not. The committee made no test as to the comparative cost of these two methods, but from the quickness with which safe-end lap-welds can be brought to a welding heat in a furnace designed for these purposes, there being but little time lost in waiting for heats, and the welding done by machine, the committee concluded that butt-welding by hand cannot be done as cheaply nor as quickly as lap-welding.

The report of the committee on "The Effect of Salt Water Drippings from Refrigerator Cars upon Track and Roadbed" was presented by Mr. A. M. Waitt. From the evidence submitted the committee thought it apparent that general trouble is experienced from these drippings both on the part of the roads and car owners. Necessity was clearly shown for the exercise of special care on lines affected in inspection of exposed parts of bridges and keeping them well covered with the best salt-resisting paint. It is considered perfectly practicable for the drips on refrigerator cars to be connected with a reservoir or collector near the center of the car, or at each end over center of truck, to hold drip until trains reach regular stopping points when the reservoir can be emptied by trainmen or inspectors.

The election of officers resulted as follows: President, E. D. Bronner; Vice-President, John Mackenzie; Secretary and Treasurer, Harry D. Vought; Members of Executive Committee, A. M. Waitt, E. A. Miller, C. E. Rood and W. H. Gardner.

AMERICAN FORESTRY ASSOCIATION.—The fourteenth annual meeting will be held at Washington, D. C. Jan. 21, when reports from officers and committees will be presented, officers elected, and the policy of the future work of the association discussed, more particularly in regard to national legislation. The morning and afternoon sessions will be held at the Cosmos Club, and a joint meeting with the National Geographic Society will be

held in the evening at Metzerot Hall, at which Hon. J. Sterling Morton, Secretary of Agriculture and President of the association, will deliver an address. Members of Congress will deliver short addresses on the forestry policy of the United States and the administration of the public forest lands, and Mr. William E. Smyth, President of the National Colonial Club, will address the meeting on the "The Relation of the Public Waters and Forests to Western Civilization."

ENGINEERS' CLUB OF PHILADELPHIA.—At the meeting of Jan. 4 Mr. William C. L. Eglin read a paper upon "The Distribution of Electrical Energy from a Central Station." Mr. John C. Troutwine, Jr., described and illustrated by lantern slides, the repairs recently made at the Queen Lane reservoir. L. F. Rondinella, Secy.

WESTERN SOCIETY OF ENGINEERS.—At the annual meeting of the society held Jan. 8, the following officers were elected for the ensuing year: President, John F. Wallace, M. Am. Soc. C. E., Chief Engineer, Illinois Central R. R., Chicago, Ill.; First Vice-President, Thos. T. Johnson, Assistant Chief Engineer Sanitary District of Chicago; Second Vice-President, Alfred Noble, M. Am. Soc. C. E., Consulting Engineer, Chicago; Secretary and Librarian, Charles J. Roney; Treasurer, Emile Gerber, M. Am. Soc. C. E., Consulting Engineer, Chicago, Ill.; Trustee, Horace E. Horton, M. Am. Soc. C. E., President, Chicago Bridge Works, Chicago.

From the beginning of this year the society will publish its own papers and proceedings.

NEW PUBLICATIONS.

TIMBER. An Elementary Discussion of the Characteristics and Properties of Wood. By Filibert Roth, Special Agent in Charge of Timber Physics. Under the Director, B. E. Fernow, Chief of the Division of Forestry. Pub. Doc. Paper, 8vo.; pp. 88; Illustrated.

This is a valuable and thoroughly practical report upon the structure, characteristics and properties of woods of different species; their strength, hardness and decay, and methods of increasing their durability. There is also a chapter by Mr. Fernow and Mr. Roth, on how to distinguish the different kinds of wood, followed by a list of the more important woods of the United States, and an analytical key of the distinguishing characteristics of these woods. In view of the rapid increase in per capita consumption of timber, and the faulty and wasteful manner of use owing to the general lack of knowledge as to its nature in detail, the value of the work which the Forestry Division is doing in investigating matters relative to timber and in publishing the results of these investigations can hardly be over-estimated.

TRADE PUBLICATIONS.

DIRECT CURRENT DYNAMOS AND MOTORS.—Gates Electric Mfg. Co., Chicago, Ill.; pamph. 8vo.; pp. 14; illustrated.

This pamphlet contains several illustrations and a brief description of the new multipolar dynamo recently put on the market by the company named. For a full description of this dynamo the reader is referred to another column of this issue.

CRANES. Whiting Foundry Equipment Co., Chicago, Ill., pamph. 8 vo.; pp., 32; illustrated.

This is a handsomely illustrated little catalogue of the great variety of cranes and hoists manufactured by the above firm for foundry and machine shop uses. Various styles of bridges and jib cranes are shown adapted to electric, steam, belt, compressed air and hand power, and a full description given of the improved form of air hoists made by the company. Copies can be had by addressing the company.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
Jan. 17.	Powder (150,000 lbs.),	Washington	Jan. 9
Jan. 18.	Fire hydrants,	Cleveland O	Dec. 26
Jan. 18.	Water pipe (24,000 ft.),	Cleveland, O.	Dec. 26
Jan. 18.	Water bonds ($12,000),	Turner, Ill.	Jan. 2
Jan. 18.	Sale of canal property,	York, Pa	Jan. 2
Jan. 18.	Ry. ties (65,000),	Marquette, Mich.	Jan. 16
Jan. 20.	Public building works,	Worcester	Dec. 26
	Advertised, Eng. News, Dec. 26 and Jan. 2.		
Jan. 20.	Water-works,	Waterbury, Vt	Jan. 9
Jan. 20.	Asphalt paving.	Toledo, O.	Jan. 2
Jan. 20.	Boilers,	Marshalltown, Ia.	Jan. 9
Jan. 20.	Electric light machinery,	Alameda, Cal.	Jan. 16
Jan. 20.	Elevators, (2) etc.,	Chicago, Ill.	Jan. 16
Jan. 20.	Elevator,	Salt Lake City, Utah	Jan. 16
Jan. 20.	Footbridge,	Buffalo, N. Y.	Jan. 16
Jan. 20.	Electric lighting, etc.,	Xenia, O.	Jan. 16
Jan. 20.	Lumber,	Chicago, Ill	Jan. 16
Jan. 21.	Water-works,	Pomona, Cal.	Dec. 26
	Advertised Eng. News, Dec. 19 to Jan. 9.		
Jan. 21.	Artesian well,	Antonito, Colo.	Dec. 26
Jan. 21.	Water-works supplies,	Toledo, O.	Jan. 2
Jan. 21.	Cast-iron pipe,	Jacksonville, Fla.	Jan. 9
	Advertised, Eng. News, Jan. 9.		
Jan. 21.	Sewer,	Mount Vernon, N. Y.	Jan. 16
Jan. 21	Sewers (10,000 ft.),	St. Louis, Mo.	Jan. 16
Jan. 22.	Electric power franchise,	Los Angeles	Dec. 26
Jan. 22.	Artesian Well at	League Island Navy Y'd.	Jan. 16
Jan. 22.	Paving (30 contracts),	Brooklyn, N. Y.	Jan. 16
Jan. 23.	Jetty extension,	New Orleans, La.	Dec. 26
Jan. 23.	Plumbing, etc.,	Birmingham, Ala.	Jan. 2
Jan. 23.	Manhole covers, etc.,	Brooklyn, N. Y.	Jan. 16
Jan. 23.	Trunk sewer,	Rochester, N. Y	Jan. 16
Jan. 23.	Heating apparatus,	Picton, N. S.	Jan. 16
Jan. 24.	Plans, etc., for jail,	Binghamton, N. Y.	Jan. 2
Jan. 24.	Hydraulic elevator,	Charleston, S. C.	Jan. 9
Jan. 25.	Stone bridge abutments,	Canton, O.	Jan. 9
Jan. 25.	Intercepting sewer,	Washington, D. C.	Dec. 19
	Advertised, Eng. News, Dec. 19 to Jan 23.		
Jan. 25	Iron bridge,	Danville, Va.	Jan. 16
Jan. 25.	Iron bridge,	Cincinnati, O.	Jan. 16
Jan. 25.	Bridge superstructure,	Youngstown, O.	Jan. 16
Jan. 27.	Court house,	Fresno, Cal	Dec. 19
Jan. 27.	Breakwater work,	Souris, P. E. I	Jan. 2
Jan. 27.	Association hall,	Jersey City, N. J.	Jan. 2
Jan. 27.	Steel and iron work,	St. Paul, Minn.	Jan. 9
Jan. 27.	Electric light franchise,	Sacramento, Cal.	Jan. 16
Jan. 27.	School building,	Middletown, N. Y	Jan. 16
Jan. 28.	Electric wiring,	Hoboken, N. Y.	Jan. 16
Jan. 28.	Boilers,	Philadelphia, Pa	Jan. 16
	Advertised Eng. News, Jan. 16 and 23.		
Jan. 28.	Brick and pipe sewers,	McKee's Rocks, Pa.	Jan. 16
Jan. 28.	Paving,	Buffalo, N. Y	Jan. 16
Jan. 29.	Steel bridge,	Dixon, Ill.	Jan. 16
Jan. 30.	Pipe sewers,	Wilson, N. C.	Jan. 2
	Advertised, Eng. News, Jan. 2 and 9.		
Jan. 30.	Electric railway franchise,	Bellevue, Ky.	Jan. 16
Jan. 30.	Condenser for lighthouse tender		Jan. 16
	Advertised Eng. News, Jan. 16 and 23.		
Jan. 30.	Carbons (60,000 pairs),	Jersey City, N. J.	Jan. 16
Jan. 30.	Removing wrecks,	Hampton Roads	Jan. 2
	Advertised, Eng. News, Jan. 2 and 16.		
Jan. 30.	State capitol building,	Olympia, Wash	Jan. 9
Jan. 30.	Sewer pipe,	Wilson, N. C.	Jan. 2
	Advertised, Eng. News, Jan. 2 and 9.		
Jan. 31.	Apartment house,	Buffalo, N. Y.	Jan. 2
Jan. 31.	Bridges (3),	Darien, Ga.	Jan. 9
Jan. 31.	Plans for college buildings,	San F'cisco, Cal.	Jan. 16
Jan. 31.	Trunk sewer,	Cincinnati, O.	Jan. 16
Feb. 1.	Macadamizing,	Stapleton, N. Y.	Jan. 9
Feb. 1.	Building,	Ft. Assiniboine, Mont	Jan. 9
Feb. 1.	Grading (75,000 cu. yds.),	Stapleton, N. Y.	Jan. 9
Feb. 1.	Electric light plant, etc.,	Lafayette La.	Jan. 16
Feb. 3.	County jail,	Howard, R. I	Jan. 2
Feb. 3.	Sale of bridge,	Rock Island, Ill.	Jan. 19
	Advertised, Eng. News, Jan. 9 to 30.		
Feb. 3.	Gun forgings,	Washington, D. C.	Jan. 16
Feb. 4.	Pipe sewers,	Logan, O.	Jan. 16
	Advertised, Eng. News, Jan. 16 and 23.		
Feb. 4.	Iron bridge,	Chillicothe, O.	Jan. 16
Feb. 5.	Hospital building,	Fergus Falls, Minn	Jan. 16
Feb. 5.	Macadamizing county road,	Toledo, O.	Jan. 16
Feb. 8.	Plans for court house,	San Francisco, Cal.	Jan. 16
Feb. 10.	Completing capitol bldg.,	Albany, N. Y	Jan. 2
	Advertised, Eng. News, Jan. 2 to Jan. 16.		
Feb. 10.	Sewers, etc.,	San Antonio, Tex	Jan. 9
	Advertised, Eng. News, Jan. 9 to 30.		
Feb. 10.	Steel trestle, etc.,	San Antonio, Tex.	Jan. 9
	Advertised, Eng. News, Jan 9 to 30.		
Feb. 11.	Pumping station,	New Orleans, La	Dec. 26
	Advertised, Eng. News, Dec. 26 to Jan. 9.		
Feb. 11.	Masonry aqueduct,	Boston, Mass	Jan. 9
	Advertised, Eng. News, Jan. 9 to 23.		
Feb. 11.	Tunnel (2 miles),	Boston, Mass	Jan. 9
	Advertised, Eng. News, Jan. 9 to 23.		
Feb. 12	Sewer system,	Nyack, N. Y	Jan. 9
	Advertised, Eng. News, Dec. 26 to Feb. 6.		
Feb. 12.	Asphalt paving (6 contracts),	Hoboken, N. J.	Jan. 16
Feb. 15.	Reformatory building	at Alexandria, Ont.	Jan. 16
Mar. 1.	Railways in Cape Colony (305 miles)		Jan. 16
Mar. 3.	Street railway franchise,	New Orleans.	Dec. 5

RAILWAYS.

East of Chicago.

DETROIT & MACKINAC.—Surveys have been made for an extension to Cheboygan, Mich., and the same report states that the road will soon be extended either to Bay City or to Saginaw. Gen. Man., J. D. Hawks, Detroit, Mich.

LAKE SUPERIOR & ISHPEMING.—Bids are asked until Jan. 18 for furnishing 65,000 cross ties for use in the construction of this road. Ch. Engr., b. S. Neff, Marquette, Mich.

LEHIGH VALLEY.—The contract for masonry on the Greenville & Hudson Ry., which is to be the Lehigh Valley terminal in Jersey City, has been awarded to John Shields, 514 Betz Bldg., Philadelphia. This is an elevated road crossing the main line of the C. R. R. of New Jersey and Newark & New York R. R. overhead. There are four separate structures.

PENNSYLVANIA.—Wm. H. Brown, Ch. Engr., Philadelphia, has sent us the following statements of the length of track laid on this system east of Pittsburg and Erie in 1895:

United Railroads of New Jersey:	Miles.
Old Bridge	2.2
No. 0 track, 2d St. to Frankford Junction	0.77
Pennsylvania R. R.:	
Downingtown to Thorndale	0.32
Atglen to Gap	2.82
Gordonville to Conestoga Creek	2.27
Salunga	2.72
Rockville to Cove	4.07
Rope Ferry	0 66
Tyrone to Altoona	4.88
Johnstown Branch	1.57
Nineveh to New Florence	0.55
Blairsville Intersection to Derry	5.09
Wilmerding Branch	0.61
West Penn. R. R.—Sang Hollow ext'n	6 98
P., V. & C. Ry	5.84
Fairhill Railroad	1.34
P., W. & B. R. R.—Claymont Branch	0 65
Balto. & Potomac R. R.—New line at Patapsco	2 13
Penn. & New Jersey R. R	4.61

Southern.

ALBEMARLE.—W. E. Payne, George W. Bostwick, Hanford R. Nash, James H. Serene and Frank L. Feiter have secured a charter in Virginia for this road from Alberene, in Albermarle county, to some point on the Southern Ry.

BRISTOL TERMINAL.—Incorporated by the Virginia legislature, to build a railway in the city of Bristol and to connect the tracks of all the railways within the city; also to construct and maintain stations and all necessary terminal facilities; incorporators, S. R. Shipley, H. W. Flounoy, R. A. Ayers, E. P. Borden and George Burnham.

CHESAPEAKE & WESTERN.—It is stated that track laying will be completed this week on the first section of this road. This extends east and west of Harrisonburg from Elkton to Bridgewater, 27 miles, and will be ready for operation by Feb 15. It connects with the Norfolk & Western at Elkton, its eastern terminus, and at Harrisonburg with the Baltimore & Ohio. The equipment has been purchased. Altogether about 275 miles of the road has been surveyed to the Chesapeake Bay and west to the West Virginia state line. Pres., J. W. Reinhart, 15 Broad St., New York.

MARIETTA & NORTH GEORGIA.—The sale of this road to the Atlanta, Knoxville & Northern Construction Co. was confirmed by the court Jan. 6. It is expected that the line will soon be extended to Atlanta, as noted last week. Pres., Chas. E. Kimball, Summit, N. J.; Secy., Geo. D. Mumford, New York; Treas., M. F. McLanahan, New York.

PORTSMOUTH, GILMERTON & SMITHFIELD.—A bill has been introduced in the Virginia legislature incorporating this company; incorporators, M. D. Eastwood, A. B. Butt, C. W. Murdaugh, Jr., A. E. Warner, A. E. Etheridge, J. Davis Reed, William G. Maupin, Jr., Walter C. Brooks; capital stock, $25,000 to $300,000; principal offices are to be in Portsmouth, Va.

Northwest.

CHICAGO, BURLINGTON & QUINCY.—Des Moines papers state that surveyors have completed the survey of a preliminary route for the proposed route of the Burlington road from near Ackworth, on the Indianola branch to a point about 12 miles south of the city, on the Albia branch. It is understood other lines will be run.

CHICAGO & NORTHWESTERN.—A press report from Baraboo, Wis., states that this road will soon be double-tracked between that city and Madison, 37 miles. The grading will be done by Winston Bros., of Minneapolis, who will begin work at once on the rock sections at Devil's Lake.

ROCK ISLAND, MUSCATINE & SOUTHWESTERN.—The incorporation of this company was noted in our issue of Jan. 2. The first section will extend from Rock Island, Ill., via Andalusia to the high bridge at Muscatine, Ia., 28 miles. The surveys will be made as soon as the weather permits.

WALHALLA, BATHGATE & EASTERN.—Incorporated in North Dakota to build a railway from Bathgate to Walhalla, 50 miles; capital stock $50,000; incorporators, C. W. Andrews, John F. Hayer, H. R. Vaugher, J. D. Gordon, J. D. Trenholme, N. C. Young, Geo. A. McCea, R. B. Richardson, Frank H. Wilson, J. K. Fairchild, Jonathan Baptic, John Morrison and Frank Feider.

WYOMING DEVELOPMENT & TRANSPORTATION CO.—A projected railway from North Platte, Neb., to Orin Junction, Wyo., was noted last week under North Platte. Later information states that the project includes the construction of irrigation ditches and other work, and that A. F. Walker, recently receiver of the Santa Fe, and other prominent men, are interested, as noted last week. It is thought that this company, which has just been incorporated in Wyoming with a capital stock of $5,000,000, is interested. Incorporators, W. L. Browne, R. D. Stearns, H. M. Leavett, Isaac Van Horn, E. P. Wetherby, Fred A. Miller, W. B. Lyons and F. A. Graham, all of Lincoln, Neb. Principal office at Cheyenne, Wyo.

Southwest.

DALLAS TERMINAL.—The first five miles of this road was opened for traffic Dec. 31. The Grigsby Construction Co. was awarded the contract and began work Oct. 2. Ch. Engr., F. W. Stever; Pres., W. C. Connor, both of Dallas, Tex.

FORT SMITH & WESTERN COAL.—Incorporated in Arkansas to build a railway from Fort Smith southwesterly into Indian Territory, probably to McAlester, about 80 miles; capital stock $1,250,000; incorporators, E. J. Crandall, Fort Smith, Ark.; W. P. Heath, St. Louis, Mo.

HUTCHINSON & SOUTHERN.—This road will probably be extended from Cameron, Kan., to Pond Creek, Ind. Ter., at an early date. L. E. Walker, J. Klein and C. B. Hart, of Beatrice, Neb., are members of a company that recently purchased the line.

MEXICAN CENTRAL.—J. H. Hampson, who has the contract for extending this railway from Guadalajara to Ameca, about 50 miles, has about 200 men and 75 teams at work, according to Mexican papers. D. B. Smith is in charge of the work. Subcontracts are being awarded, and the work is expected to be completed by July 1, 1896.

PECOS VALLEY.—We are informed that this railway, which now extends from Pecos City, Tex., on the Texas & Pacific, to Roswell, N. Mex., 160 miles, will be extended within the next six months to Washburn, Tex., on the Santa Fe road, a distance of 200 miles.

Rocky Mountain & Pacific.

ASTORIA & COLUMBIA RIVER.—A. B. Hammond, Pres., Astoria, Ore., writes us that this road has been located from Astoria to Goble, 60 miles, and Carey Bros. & Co., of Astoria, awarded the contract for 10 miles. Press reports state that rails for the entire line have been purchased in England and that $130,000 were saved by so doing.

KASLO & SLOCAN.—Foley Bros. & Guthrie, of St. Paul, are said to have completed this narrow-gage railway in British Columbia, 32 miles in length, and it is stated that application will be made for power to extend the line from Sandon to Slocan Lake at an early date. O. Foss, of Foss & McDonell, of Minneapolis, who built part of the line, is quoted as stating that the road is well built, with 45 lb. steel rails.

LUMBER.—It is stated at Eureka, Cal., that the John Vance Mill & Lumber Co.'s R. R. will be extended to that city from Mad River. The road is an extension of the Humboldt Bay & Trinidad Logging R. R., which extends from tidewater, near Arcada, to the Vance Co.'s woods on Mad River.

PUEBLO & SILVER CLIFF.—Pueblo, Colo. papers state that J. B. Orman, H. R. Holbrook and F. I. Meston will start in a few days for a final reconnaissance trip over the line of this road, which was projected last spring.

SAN BERNARDINO, ARROWHEAD & WATERMAN.—O. H. Kohl, Pres., San Bernardino, Cal., writes us that road extends to Harlem Springs and Highlands, eight miles. The roadbed is being improved, engine rebuilt and changed to oil burner, and closed cars equipped with steam heating apparatus for the benefit of those who go to the springs to take hot baths.

SAN FRANCISCO & JOAQUIN VALLEY.—It is reported that contracts for 18,000 tons of rails, 300,000 ties and 500,000 ft. of lumber will be awarded the latter part of this month. This material will be used in constructing the 175 miles of road between Fresno and Bakersfield, the proposed terminus of the road. All the material is expected to be on hand by July and the road to be ready for business in time to move this year's wheat crop. W. B. Story, Ch. Engr., 321 Market St., San Francisco.

Foreign.

CAPE COLONY.—Bids will be received until March 1 for the construction of three lines of light railway: Mossel Bay to the Graaf Reinet Ry., 229 miles; Somerset East to Fort Beaufort, 76 miles; Fort Beaufort to King Williams' Town, 56 miles. Plans and information may be obtained from the Agent-General for Cape Colony, London, England, and from C. B. Elliott, General Manager, Government Railways, Cape Town. Bids will be received by the General Manager.

PERU.—The United States consul at Callao, Peru, is quoted as stating that the Peruvian Congress has granted Cuthbert B. Jones and other Philadelphia capitalists an important concession for a railway from the coast to Huaigayac, 120 miles, where Mr. Jones and associates have 40 coal mines. Several branches will also be built the entire road to be completed within five years.

STREET AND ELECTRIC RAILWAYS.

BANGOR, ME.—Henry L. Mitchell, Pres., Bangor, writes us that the Bangor & Winterport St. Ry. Co. has secured the right of way in all towns except Bangor, for an electric road 25 miles long from Bangor to Hampden, Winterport, Frankfort, etc. Ch. Engr., T. W. Baldwin.

AMHERST, MASS.—The Amherst & Sunderland Electric Ry. Co. has been formed to build a line to cost $75,000. Pres., T. L. Paige, Amherst; Secy. and Treas., David Barry; directors, Charles Deuel and H. M. McCloud, of Amherst, Edmund Hobart and M. W. Howard of North Amherst, and F. L. Whitmore and A. M. Darling of Sunderland.

FRANKLIN, MASS.—The construction of an electric road between Franklin and Medway in the spring is under discussion. Edgar K. Ray is interested.

STONEHAM, MASS.—The Mystic Valley St. Ry. Co. has secured permission, according to local papers, to extend its electric railway on a number of streets.

DANBURY, CONN.—Press reports state that a new electric road 14 miles long is to be built connecting this city with Golden's Bridge and the Harlem railway. F. F. Wardwell, of Wardwell Bros., builders of electric roads, is the principal stockholder. The construction of the road will begin soon.

COHOES, N. Y.—The Cohoes City Electric Ry. Co. is considering the question of extending its road to Crescent at an estimated cost of $16,000.

NIAGARA FALLS, N. Y.—It is stated that George A. Rikker, Engr., is working on plans for an extension of the Gorge R. R. from the Buttery elevator to Niagara Falls, where the road climbs up a high bank in the rear of the Niagara Falls brewery and passes underneath the New York Central R. R. tracks in a deep cut. A private right of way is owned by this company back of the brewery at the side of the New York Central R. R., connecting with Second St. and with the line of the Niagara Falls & Suspension Bridge Co. at the corner of Second and Main Sts. The subway under the New York Central tracks will cost $40,000 or $50,000.

NEW YORK, N. Y.—The Boynton Bicycle Traction Co., of France, has been incorporated in West Virginia to construct electric railways, etc., in France. Minimum capital stock, $10,000; maximum, $5,000,000; par value, $100 per share. Incorporators, Jose F. De Navarro, Thomas E. Sotolongo, Mariano de Cossio and George R. Cullingworth, all of New York city. A Spanish company has also been incorporated by the same parties, with the same amount of capital.

PATCHOGUE, N. Y.—The report has become current that the project of building a railway between the towns of Patchogue, on the Great South Bay on the south, and Port Jefferson on the Sound on the north has been abandoned by the Patchogue & Port Jefferson Trolley R. R. Co. We are informed that this is not true. Several lines have been surveyed to discover the most advantageous route, and the company has about decided that the line running on Ocean Ave. and extending in a straight line on this course and passing through the villages of Waverly, Seldon, Terryville and in that course to Port Jefferson will be the best line as well as the shortest, the distance being about 12 miles. No contracts have been awarded as yet, but the company expects to be able to commence work as soon as the weather will allow. Secy., J. B. Swezey, Patchogue, L. I.

ROCHESTER, N. Y.—We are informed that the Irondequoit & Lake Shore Electric R.R.'s proposed line extends from Genesee River (off Charlotte, N. Y.), easterly along shore of Lake Ontario to Sea Breeze and thence to Forest Lawn, about six miles. Surveys have been made and part of right of way secured. Contracts will probably be let within two months. While definite arrangements have not been completed, there is no question but what the parties having the franchise have the capital to build the road. They propose using double truck cars. This is an excursion road and operated summers only. Pres., E. O. McNair, Warsaw, N. Y.; Ch. Engr., Le Grand Brown, 16 State St., Rochester, N. Y. The Irondequoit Park R.R., formerly the Rochester & Glen Haven R.R., operated by steam, 3 ft.-gage is proposed to be rebuilt of standard gage and to be equipped with electricity. Will be two weeks before plans will be ready for contractors. This road is about four miles long, extending from East Main St., Rochester, to Irondequoit Bay. It is controlled by C. C. Woodworth, F. P. Crouch, J. D. Lyon. Ch. Engr., Le Grand Brown.

LEBANON, PA.—It is reported that Philadelphia and local capitalists have decided to extend the Lebanon & Myerstown Electric St. R. R. to Womelsdorf, and connect it with the proposed road from Womelsdorf to Reading. The distance is 6½ miles along the Berks and Dauphin turnpike, and the work of constructing the new line will be commenced at once.

BALTIMORE, MD.—The Baltimore, Middle River & Sparrow's Point R. R. Co. is reported as about to let a contract for building a branch of its electric road from Back River to Middle River. A bridge 1,400 ft. long will have to be built on this branch.

WASHINGTON, D. C.—The Columbia Ry. Co. proposes to extend its electric road on a number of streets.—The Washington, Sandy Spring & Baltimore Ry. Co. has received about enough subscriptions to begin the grading of its proposed electric road. Secy. and Treas., H. A. Cody, of Takoma Park, D. C.; Ch. Engr., Geo. W. Jackson, Atlantic Bldg., Washington.

CHARLESTON, W. VA.—The Charleston Electric Ry. & Power Co. has been incorporated with a capital stock of $500,000 by Neil Robinson and E. S. Buttrick.

NEW ORLEANS, LA.—R. H. Kennedy, City Comptroller, has sold the franchise extension of the Canal & Claiborne St. Ry. system for 50 years for $75,000 to Joseph H. De Grange, representing the road, the only bidder.

BELLEVUE, KY.—Bids are asked until Jan. 30 for the purchase of a street railway franchise. Chas. L. Harrison, Cy. Clk.

CLEVELAND, O.—F. H. Eggers, Chard and Huck Sts., Cleveland, writes us that the Chagrin Falls & Cleveland Electric R. R. Co. has secured the consent of property holders along the route of its proposed road, 15 miles in length. It is expected to receive the franchise from the county commissioners in a few days. One-half of the $3 0,000 capital stock has been subscribed. Contracts will be let in April, if not sooner.

LORAIN, O.—We are informed that it has been determined that there will be an electric road built from Lorain to Elyria, Amherst and Oberlin and perhaps to Wellington, this year. Wm. G. Sharp, E. K. Mussy, A. S. Garford and C. Clough are the promoters. Surveys are being made by L. Fauver, 88 Broadway, Lorain.

TROY, O.—Geo. S. Long, Troy, writes us that the Troy, Tippecanoe & Dayton Interurban Electric Ry. Co. has had surveys made for an electric road 20 miles long from Troy ito Tippecanoe, Tadmor, Dayton, Vandalia, Chambersburg, etc. Pres., Theodore Sullivan, Troy, O.

ANDERSON, IND.—It is reported that no contract was awarded by the Anderson Electric Ry. Co. for building the roadbed for seven miles between this city and Alexandria. The company rejected all bids received Dec. 21, and will do the construction itself early in the spring. Man., Chas. L. Henry, Anderson; Address H. H. Rogers, Cy. Engr., Anderson.

ROCKFORD, ILL.—The Rockford Traction Co. has been incorporated at Chicago with a capital stock of $300,000 to construct a street railway in Rockford; incorporators C. H. Moore, Harry L. Jewell and William Foster Burns.

DENVER, COLO.—S. Roy Wright, Gen. Man., Berkeley, Colo., writes us that the Denver, Globeville & Golden Rapid Transit Co. has not yet secured all the franchises for its electric road, which will cost about $100,000.

ST. LOUIS, MO.—An extension of the Benton-Bellefontaine electric line is projected from the Calvary terminus through Jennings Heights, Ferguson and St. Ferdinand. Ch. Engr., W. C. Gottschall, Union Depot R. R.

ELECTRIC LIGHT AND POWER.

AUBURN, ME.—The Lewiston & Auburn Electric Light Co. has leased the Gay power and is equipping it for lighting and power purposes. We are informed that about 400 HP. can be secured. Supt., E. P. Ronell, Auburn.

PROSPECT, N.Y.—It is stated that the Trenton Falls & West Canada Creek Electric Power Co. will erect a dam 20 to 30 ft. high at the E. M. Davies Falls and will commence at once. The pond will flow about 60 acres and develop 20,000 HP. It will be carried by canal across the Talcott farm about 250 rods.

HOBOKEN, N. J.—Bids are asked until Jan. 28 for electric wiring the new $60,000 public library building. Arch., A. Beyer, Second National Bank Building, Hoboken; Thos. F. Hatfield, Librarian.

JERSEY CITY, N. J.—Bids are asked by the board of freeholders of Hudson county until Jan. 30, for furnishing 90,000 pairs of elliptical carbons for the Hudson Boulevard and also for 1,500 tons of pea coal for the power house at Snake Hill. John Boyd, Clk., Jersey City.

CAMBRIDGE, MD.—It is reported that J. Frank Morrison, of Baltimore, with two electrical engineers, was in Cambridge recently gathering information as to the feasibility of establishing an electric light plant. At present Cambridge is lighted by 28 gas lamps and 90 coal-oil lamps at a cost of $1,500 per year. There are eight miles of streets in the town to be lighted.

NORTH CAROLINA.—Among the cotton mills now building in North Carolina, which will probably put in electric light plants soon, are those owned by Col. Frank Coxe, Asheville; Gov. T. M. Holt (Fayetteville), Haw River; E. M. Holt & Sons, (Fayetteville), Burlington; W. V. Clifton, Raleigh; John C. Drewry, Raleigh; W. H. Morris, Rutherfordton.

LAFAYETTE, LA.—Bids are asked by the committee until Feb. 1 for constructing an electric light plant and water-works.

SHEFFIELD, ALA.—It is stated that the Consolidated Water, Light & Power Co. wants two 50-HP. motors, two 125-HP. boilers and a 2,500-light plant. Pres., E. F. Ensler, Birmingham, Ala.; Secy. and Treas., C. B. Ashe, Sheffield.

XENIA, O.—Bids are asked until Jan. 20, for lighting the city and also for furnishing a low speed engine for the electric light plant. C. F. Logan, Cy. Clk.

HUBBARD, O.—The following contracts have been awarded for an electric light plant: Steam plant, Russell & Co., of Massillon, O., at $2,214; electric plant, 50-K.-W. alternating current, General Electric Co., of New York, $3,493. The plant is to be erected and operated within 60 days.

PIERCETON, IND.—It is reported that Lipps & Noble have petitioned the council for an electric light franchise.

LOWELL, MICH.—We are informed that bids will be received early in Feb., for constructing an electric light plant for this city. Engrs., Humphrey & Carr, Detroit.

DETROIT, MICH.—The Edison Illuminating Co. is reported as preparing to erect a plant on the east side of the city to take care of the increasing commercial business in that section. No site has yet been selected or plans prepared. The plant, it is stated, will not be built before next summer. Pres., Geo. Peck.

CHADWICK, ILL.—The question of constructing an electric light plant is being considered.

KIRKWOOD, ILL.—This place is reported as discussing the putting in of electric lights.

MERRILL, WIS.—The "Advocate" states that the Merrill Ry. & Lighting Co. is to double the capacity of its power plant this season. The company now operates a lighting plant as well as the electric railway system.

ABERDEEN, IA.—A press report states that the electric light plant was sold Jan. 3 by J. L. W. Zittlow to J. S. Bartholomew, of Grand Forks, owner of the local gas plant. The plant, as well as facilities, will be greatly improved and additions made to the buildings. The consideration was $6,000.

BEDFORD, IA.—It is stated that this city has voted to grant a 15-year electric light franchise.

TOPEKA, KAN.—Wm. H. Barnes, Cy. Engr., writes us that specifications are being prepared and locations made for new lights, which will be submitted to the council about the middle of the month.

JOHN DAY, ORE.—The construction of an electric light plant in this place is being considered. The report says the plant will also light Canyon City, which is two miles distant.

ALAMEDA, CAL.—Bids are asked by the city trustees until Jan. 20 for furnishing the machinery for an addition to the electric light plant, estimated to cost $20,000. Bids were asked until Jan. 13 for constructing the addition.

SACRAMENTO, CAL.—Bids are asked until Jan. 27, for the purchase of a 50-year electric light franchise. O. S. Flint, Cy. Clk.

VISALIA, CAL.—We are informed that the Kaweah Irrigation & Power Co., is constructing a power ditch which will be completed by March, when water power machinery and a long transmission plant to Visalia and Tulare, Cal., for furnishing light and power, will be needed. The plant is expected to develop about 3,500 HP. Man., Geo. Hanna; Asst. Man. and Secy., A. G. Wishon; Ch. Engr., Wm. A. Durr, Los Angeles, Cal.

BRIDGES.

MILLER'S FALLS, MASS.—It is reported that the highway bridge over Miller's River was washed away Jan. 2. The structure was 150 ft. long and it will cost about $7, 00 for a new iron bridge.

BUFFALO, N. Y.—Bids are asked until Jan. 20 for constructing a foot bridge over the railway tracks at Franklin St. R. G. Parsons, Secy. Dept. Pub. Wks.

LEWISTON, N. Y.—It is reported that surveys have been made here and on the Canadian side for a railway suspension bridge to span the gorge between Lewiston and Queenston, Ont. The Niagara Falls Park Ry. Co. and the Gorge electric road are mentioned in connection with the project. American and Canadian companies already possess charters for the construction of a railway bridge at this point, and the matter of building it will be decided in a few weeks.

NEW YORK, N. Y.—Senator Abearn introduced a bill at Albany, Jan. 9, incorporating the Ward's Island Bridge Co., for the purpose of constructing a bridge for passenger and other traffic, to connect the 23rd ward of New York city and Long Island City, passing over Blackwell's Island. James W. Covert, of Queens county; Thomas H. Balchue and James C. Read, of New York city, are named as bridge commissioners, together with two persons, one each to be appointed by the mayors of New York and Long Island City.

BRADDOCK, PA.—The Braddock & Duquesne Bridge Co. has been incorporated to build a bridge ove. the Monongahela River, at 13th st., Braddock. Treas., John C. Miller, Pittsburg.

SCRANTON, PA.—Joseph P. Phillips, Cy. Engr., writes us that the viaduct, reported in our issue of last week, cannot be built before the people vote favorably on an increase of the city debt, an election for which will take place Feb. 18.

PORTSMOUTH, VA.—Mr. Brand has introduced a bill in the House at Richmond to incorporate the Portsmouth & Pinner's Point Drawbridge Co., A. E. Warren, M. P. Eastwood, A. B. Butt, A. E. Etheredge, William G. Maupin, C. W. Murdaugh, Jr., and Walter C. Brooks are the incorporators. The measure authorizes the construction and operation of a drawbridge across Scott's Creek, a branch of the Elizabeth River. Capital stock, $28,000.

BALTIMORE, MD.—The Baltimore, Middle River & Sparrow's Point R. R. Co., it is reported, will soon let the contract for constructing a 1,400-ft. bridge on the proposed branch of its electric road between Back River and Middle River.

DANVILLE, VA.—Bids are asked until Jan. 25 for constructing an iron or steel bridge over Sandy Creek, according to reports. F. A. Miller, Bridge Comr., Danville.

KNOXVILLE, TENN.—The county judge has been authorized to prepare bonds for $20,000 for the construction of a new county bridge across the Tennessee River.

CHILLICOTHE, O.—Bids are asked by the county commissioners until Feb. 4 for constructing an iron bridge over the Scioto River in place of the covered Howe truss bridge of three spans of 154 ft. each, which was destroyed by fire Dec. 23, as noted in our issue of last week. P. W. Brown, County Audr., Chillicothe.

CINCINNATI, O.—Bids are asked until Jan. 25 for constructing a wrought iron bridge over the Dry Fork at the Mount Hope road. Henry Korb, Pres. Bd. County Comrs.; Geo. C. Zimmermann, Clk. County Bd.

CLEVELAND, O.—M. E. Rawson, Ch. Engr., 305 City Hall, writes us that plans for the proposed bridge over Old River bed at Willow St. have not yet been completed. Local papers state that the council has authorized D. E. Wright, Dir. Pub. Wks., to advertise for bids for building this bridge, which, as stated in our issue of last week, will be 300 ft. long and is estimated to cost $140,000.

EAST LIVERPOOL, O.—It is reported that John Shrader, of Pittsburg, Pa., has been awarded the contract for constructing a 1,400-ft. bridge in three spans over the Ohio River at this point at a cost of $225,000. Geo. P. Rust, of Cleveland, O., is interested.

YOUNGSTOWN, O.—Bids are asked until Jan. 25 for constructing the superstructure for a bridge over the Mahoning River at Spring Common in this city; check, $10,000. C. F. Brenner, County Audr., Youngstown.

SPRINGWELLS, MICH.—The boards of Springwells and Ecorse townships have annulled the contract recently made for constructing the proposed bridge over the Rouge River at the River road. A committee has engaged Chas. C. Bothfield to prepare new plans and superintend the construction of the bridge. The plans will, it is reported, be ready in about two weeks, after which bids will be asked for the construction. The bids were noted in our issue of Oct. 17. Geo. O. Fisher, Chn. Com., Ecorse, Mich.

CHICAGO, ILL.—It is stated that the Illinois Central R. R. Co. will build four viaducts over its tracks between Randolph St. and Park Row.

DIXON, ILL.—Bids are asked by the county commissioners until Jan. 29, for constructing a steel and iron bridge, of two 60 ft. spans, over Seven Mile Branch. Consult. Engr., L. B. Merriam, Dixon; Wm. W. Kent, Town Clk., Dixon.

CHIPPEWA FALLS, WIS.—It is stated that the city is advertising for bids for the purchase of $30,000 of bridge bonds. J. McCallum, Cy. Clk.

MILWAUKEE, WIS.—The city engineer is now preparing plans for a new bridge to replace the old Huron St. structure, at an estimated cost of $60,000.

SEATTLE, WASH.—The county commissioners have been petioned to construct a bridge over Cedar River at Maple Valley.

BUILDINGS.

BOSTON, MASS.—The "Herald" states that negotiations are under way for a new union railway passenger station on Kneeland St. The N. Y., N. H. & H. R. R. Co., the New York & New England Ry. Co., and the Boston & Albany R. R. Co. are interested.

BUFFALO, N. Y.—Phillips & Pentecost, 26 Fornes Block, have prepared plans for a 5-story brick and stone building for stores and flats, to be built for F. Messwing at the corner of Main and Balcon Sts. The framework will be of iron.

MIDDLETOWN, N. Y.—Bids are asked until Jan. 27 for constructing a new high school building at Academy and Little Aves. H. W. Wiggins, Chn. Com.

NEW YORK, N. Y.—The board of estimate has authorized the trustees of the Metropolitan Museum of Art to issue $1,000,000 in 3% bonds for extending the east side of the museum. Not more than $200,000 is to be issued in any one year. Work will probably be begun soon. The proposed wing will be 304 ft. long besides a stem of 104 ft. The plans were begun by the late Richard M. Hunt, and were completed by his son, Richard H. Hunt. The committee consists of Gen. Louis P. di Cesnola, 109 East 57th St., New York, and Henry G. Marquand. The board of estimate has approved bills authorizing a $200,000 appropriation for public baths and toilet rooms; $1,100,000 for new buildings and for alterations and improvements in old ones of the department of charities, and $800,000 for the erection and improvement to the buildings of the correction department. These bills will be presented to the legislature for passage at its present session. H. R. Butler, Pres. American Fine Arts Society, West 57th St., has submitted a proposition to the society for the consolidation of five of the art associations of this city and the extension of its present building at a cost of $340,000.

GREENSBURG, PA.—W. S. Fraser, Arch., Pittsburg, is preparing plans for a new high school building, 125x110 ft., for Greensburg, to cost $55,000.

PHILADELPHIA, PA.—Bids are asked until Jan. 28 for furnishing and putting new high pressure steam boilers, etc., in the post-office building and courthouse in this city, as stated in our advertising columns. Wm. Martin Aiken, Supervising Arch., Washington, D. C. Plans are reported as about prepared by W. B. Powell for making improvements, to cost about $1,000,000, to the city hall.—Work will probably be begun about Feb. 1 on the construction of an 8-story warehouse, at 811 to 815 Filbert St., for Justus C. Strawbridge, of Strawbridge & Clothier, Arch., Addison Hutton.—Yarnall & Goforth, Archs., are preparing plans for a 15-story brick office building in this city.

PITTSBURGH, PA.—The plans for the new wing to the Phipps Conservatory at Schenley Park, as designed by the Lord & Burnham Co., of Irvington-on-Hudson, N. Y., have been accepted. This firm was also given the contract to build the addition at about $25,000. Henry Phipps donated $50,000 for this work.—J. L. Silsbee, Marquette Bldg., Chicago, Ill., has been engaged to prepare plans for the new $100,000 animal house for Highland Park, Pittsburg. The money for the building was donated by C. L. Magee, of the Pittsburg Traction Co.

SCRANTON, PA.—It is reported that in a few days the can ract will be awarded for constructing the new 9-story board of trade building on Linden St.

WINSTON, N. C.—The suit entered against the county commissioners to restrain them from building a $50,000 courthouse at this place has been decided in favor of the commissioners and the contract for the building, to be of brick and stone, will soon be let. Address Chairman, Board of County Commissioners, Winston.

CLEVELAND, O.—The building committee of the board of trade are making arrangements for the architectural competition for the proposed building, which will be from four to six stories high and will cost about $300,000. The sum of $3,000 is to be offered for the plans.

TOLEDO, O.—The Hotel Madison Co. has been incorporated to erect hotels and office buildings; capital stock $100,000; incorporators, Wm. B. Taylor, Frank G. Thompson, Cary B. Paul, Beverly W. Brown and Geo. G. Metzger.

IRON MOUNTAIN, MICH.—The committee, it is stated, has reported on the question of a new county jail. R. C. Browning, County Clk.

INDIANAPOLIS, IND.—W. E. Stevenson has received from Henry Ives Cobb, Arch., Chicago, Ill., the plans for the new 17-story building, to be erected on what was formerly the Johnson heirs' property in Washington St.

CHICAGO, ILL.—Bids are asked until Jan. 20 for constructing two electric elevators in the temporary post-office building and for electric wiring the same. Wm. Martin Aiken, Supervising Arch., Washington, D. C.

MILWAUKEE, WIS.—It is reported that at a meeting of the board of trustees of the new historical library held Jan. 5 the plans of Ferry & Clas, Milwaukee, were adopted. The ten plans originally submitted were passed on by Prof. Ware, of Columbia College, who selected six of them as the best, especially recommending those of Ferry & Clas and Vant Brunt & Howe, of Kansas City. After a recompetition by these two firms the above choice was made. The library building is to cost $180,000, will have an extreme length of 200 ft., with a width of 152 ft., and will be one of the best and most thoroughly equipped library buildings in the west.

FERGUS FALLS, MINN.—Bids are asked until Feb. 5 for erecting a section of the northeast wing of the state hospital for the insane. Arch., W. B. Dunnell, Bank of Commerce Bldg., Minneapolis, Minn.; T. H. Titus, Secy. Trustees, Ryan Hotel, St. Paul, Minn.

FREDONIA, KAN.—It is stated that the commissioners of Wilson county have called an election for Jan. 15 to vote on issuing bonds for constructing a jail.

SAN FRANCISCO, CAL.—Plans are asked of San Francisco architects until Feb. 8, by the board of supervisors, for the new criminal department building on the site of the old city hall; estimated cost, $275,000. The architect whose design is adopted will be appointed superintendent of the building at a commission of 5% of the total cost of the structure. The authors of the designs second, third and fourth in merit will receive prizes in the following order: $750, $500 and $250 respectively. Frank Shea, Arch., San Francisco, has prepared the specifications.

SALT LAKE CITY, UTAH.—Bids are asked by the county court until Jan. 20 for constructing an electric or hydraulic elevator for the county building.

OTTAWA, ONT.—Bids are asked until Jan. 23 for furnishing a hot water heating apparatus for the public building in Pictor, N. S., and until Feb. 15 for constructing a reformatory at Alexandria, Ont. Engr., H. A. Gray, Confederation Life Bldg., Toronto, Ont.; E. F. E. Roy, Secy., Dept. Pub. Wks., Ottawa.

SAN FRANCISCO, CAL.—Plans and specifications are asked by the regents of the University of California until Jan. 31 for three buildings for the Affiliated Colleges at Berkeley. Estimated cost of buildings, $250,000. Postponement from Jan. 17. H. C. Bonte, Secy., Berkeley, Cal.

WATER-WORKS.

AUBURN, ME.—Estimates have been submitted for about $6,000 worth of extensions to be made this year. J. B. Hunton, Clk.

ROCKLAND, ME.—The council has voted to contract with the water companies at $3,100 a year for 62 hydrants and $750 for water for other purposes, each additional hydrant up to 13 at $50 each and all in excess of 75 at $30 each a year.

NORTHFIELD, VT.—G. R. Andrews writes us that he is constructing works, the supply being from springs. The main pipe has been laid and about one-half mile of 2-in. pipe will be put in this spring. Engr., F. I. Harris, of Northfield.

CAMBRIDGE, MASS.—The contract for constructing section 3 of Hobbs Brook reservoir has been awarded to August Saucier, a brother of the contractor on section B.

HOLDEN, MASS.—The question of water-works is being agitated. Thos. Hennessey, a local contractor, has prepared preliminary plans for a system, estimated to cost $35,000. If a system is constructed the service will probably be extended to Jefferson.

UXBRIDGE, MASS.—It is stated that a special town meeting will soon be held to vote on the question of water-work extensions. Several elections have been held to vote on the question of increasing the water supply by taking Mendon Pond, but the project has failed each time to secure the necessary two-thirds vote.

GLENS FALLS, N. Y.—At an election in South Glens Falls last week $50,000 in bonds was voted for works. Geo. P. Slade, Engr., Glens Falls.

FREDONIA, N. Y.—A majority of the resident taxpayers is reported to have signed a petition in favor of issuing $20,000 in bonds for an additional water supply.

OLEAN, N. Y.—The contract for constructing works at North Olean has been awarded to Thos. J. Moran, at $14,016. It is stated that there were only four bids received.

POTSDAM, N. Y.—The special committee appointed a year ago to investigate the best means of increasing and improving the water supply has submitted a report recommending improvements to cost about $38,000, or a gravity supply to cost about $57,000. G. W. F. Smith, Engr.; D. W. Pratt, of Boston, Consult. Eng.; H. Bicknell, Chn. Com.; W. H. Walling, Pres. Comrs.

ROCHESTER, N. Y.—There is talk of extending the 36-in. main about 1½ miles on the west side and the same distance on the east side, and the engineer has been requested to prepare an estimate of the expense.

SKENEATELES, N. Y.—The contract with the water company expires Feb. 1 and it is stated that notice has been given of a proposed increase of hydrant rental from $40 to $50 each a year. Municipal ownership is being discussed.

DECKERTOWN, N. J.—C. A. Wilson, W. S. Vandruff and C. C. Kyte have been appointed a board of water commissioners. The vote to issue $50,000 in bonds for municipal works was noted last week.

NEWARK, N. J.—M. R. Sherrerd, Cy. Engr., has submitted the following estimates of the cost of a new conduit between Macopin and the Belleville reservoir: 48-in. steel-riveted pipe, like the present one, $1,025,000, which is $575,000 less than the estimate recently submitted by the East Jersey Water Co.; 48-in. cast-iron conduit $1,420,000; 36-in., $710,000 for steel-riveted or $875,000 for cast-iron; 24-in., $485,000 to $500,000 for either steel or iron.

BELLEVUE, PA.—The council has appropriated $500 to investigate the water supply on Neville Island. At a recent citizens meeting a resolution was passed requesting the council to call an election to vote on the question of issuing $70,000 in bonds for water works.

DU BOIS, PA.—An election will be held Feb. 18 to vote on an issue of $115,919 in bonds for water-works.

NEWVILLE, PA.—The Newville Water Co. was incorporated Jan. 9 with a capital stock of $1,000. Treas., Dr. E. H. Leffler, Millersburg.

PHILADELPHIA, PA.—Bids are asked until Jan. 22 for drilling an artesian well, etc., at the League Island navy yard. E. O. Matthews, Ch. of Bureau, Yards and Docks, Washington, D. C.

SHARPSVILLE, PA.—It is reported that a proposition to issue $35,000 in bonds for water-works will be voted upon next month.

PORTSMOUTH, VA.—The Portsmouth Water Co. is said to be negotiating for 20 miles of 20-in. cast-iron pipe for a new main from this city to Suffolk.

JACKSONVILLE, FLA.—R. N. Ellis, Engr. and Supt., has prepared specifications for additional pumping machinery and has recommended the purchase of new pumps, new engines and boilers and the construction of a storage reservoir and stand-pipe, estimated to cost $40,000.

FLORENCE, ALA.—The water-works will be sold at Register's sale, Feb. 10. The plant is said to have cost $200,000.

SHEFFIELD, ALA.—The Consolidated Water, Light Power Co. is reported as in the market for boilers, pumps, stand-pipe and about four miles of cast-iron pipe.

LAFAYETTE, LA.—The water-works and electric light committee asks parties who wish to bid on the construction of the plant to apply for copies of plans and specifications on or before Feb. 1. Robert R. Zeil, Engr., 16 Goodchaux Bldg., New Orleans.

NASHVILLE, TENN.—The plants of the Columbia Water Co. and Columbia Improvement Co. will be sold to the highest bidder Feb. 15. H. M. Doak, Master Comr.

NEWPORT, KY.—John Sarran, Supt., has recommended the purchase of a 5,000,000-gallon pumping engine this year.

OXFORD, IND.—It is reported that water works will be constructed in connection with the electric light system, at a cost of about $20,000.

ROCKFORD, MICH.—Bids are asked until Feb. 12 for constructing works, as stated in our advertising columns. J. M. Spore, Village Clk.

LOCKPORT, ILL.—The contract for laying water mains, etc., has been awarded to Gaffney & Long. Local papers state that the bids were as follows:

G. A. Thatcher, Chicago	$30,950
I. R. McDonald, Lockport	30,622
Gaffney & Long, Chicago	29,606
Isaac Robinson, Chicago	33,416
R. G. Morrison, Joliet	35,363
Campbell & Dennis, Joliet	33,000
T. H. Riley, Joliet	31,726
G. W. Wood, Chicago	33,885
C. & T. Iglehart, Morgan Park	34,013

MERRILL, WIS.—Local papers state that extensive improvements are projected. M. F. Wright, Supt.

COLUMBUS JUNCTION, IA.—The contract for constructing work has been awarded to Jackson & Morse, of Des Moines, at $10,608. This contract was awarded to the Smedley Mfg. Co. in October, previous to the failure of the firm.

LE SUEUR, MINN.—The city has sold the $20,000 of 20-year 5% water bonds at a premium of $250. A water supply has already been secured from an artesian well.

ST. CLOUD, MINN.—A special committee has investigated the water supply, and had eleven samples analyzed. The reconstruction of the intake pipe, and a method of filtration are among the methods suggested for relief.

HURON, S. DAK.—The supreme court has declared the sale of the works to the Huron Water-Works Co. in 1890, illegal, and on Jan. 3 denied a rehearing. The city is now in possession of the plant.

OREGON, MO.—There is a talk of constructing works to cost $30,000, according to reports.

NEWKIRK, OKLA.—E. A. Burke, Cy. Clk., writes us that the council has purchased a second-hand water works plant, used one year, for $6,500, and an election was to be held Jan. 14 to ratify the contract.

TRINIDAD, COLO.—An ordinance was unanimously passed by the council Jan. 1, and immediately signed by the mayor and clerk, repealing all franchises and rights granted to the Trinidad Water-Works Co., in 1879, 1889 and 1892.

IRRIGATION.

OGALLALA, NEB.—Press reports state that the land owners of West Ogallala precinct have for years been trying to get charge of the Ogalalla power and irrigation ditch. This ditch has cost the precinct $33,000 and very little benefit has been derived from it, as it has not been kept in repair. At a meeting of the freeholders Jan. 4 a committee of five, with Hugh Carnahan as chairman, was appointed to file a water right and circulate a petition to organize a irrigation district.

NEW COMPANIES.—Tzschuck Canal Co., Ord, Neb., $5,000: George B. Tzschuck, O. L. Horr, M. E. Gutter, D. A. Gard, H. A. Stewart, W. B. Keown, H. E. Babcock.

Fort Birdger Irrigated Land Co., Omaha, Neb.; $200,000 John A. McShane, Frank C. Condon, B. L. Baldwin, Louis Schroeder.

Mendota Canal & Land Co., San Francisco, Cal., $5,000,000, with $28,000 paid in; to construct irrigation canals, etc.; Wm. Strader, Coalinga, Cal.; H. W. Gray, A. S. Peterson, John H. Dobbins, San Francisco.

SEWERAGE.

NORTH BROOKFIELD, MASS.—It is reported that Nathan E. Craig, of Spencer, Mass., has submitted to the selectmen a report and plans for the proposed system of sewerage, estimated to cost $67,000. It is not thought that the town will undertake to build the entire system at once; indeed, it is recommended by the engineer that the town expend from $8,000 to $10,000 each year, as necessity may require.

NORWOOD, MASS.—N. L. Sheldon, Geo. Hill, F. O. Winslow and Lewis Day have been appointed a committee to consider the question of constructing a system.

TAUNTON, MASS.—The sewer committee has recommended to the council an issue of $125,000 in bonds for a main outfall sewer from Lakes Landing to Briggs St. and for building the Cobb Brook Valley sewer and laterals. H. A. Thayer, Chn. Com.

WEBSTER, MASS.—The state board of health has recommended the construction of a sewage disposal plant in connection with the system planned by L. A. Taylor, of Worcester, Mass. This system was designed to empty into French River, but to this plan the state board objects. John Flint, Chn. Sewer Com., Webster; Samuel W. Abbot, Secy. State Bd. Health, Boston.

BROOKLYN, N. Y.—Bids are asked until Jan. 23 for furnishing 200 manhole heads and covers for the bureau of sewers. Alfred T. White, Comr. Cy. Wks.

DUNKIRK, N. Y.—The state engineer has recommended the extension of the outlet sewers into deep water in the lake. This will not necessitate the construction of the proposed intercepting sewer.

MOUNT VERNON, N. Y.—Bids are asked until Jan. 21 for constructing a sewer in Overlook St. Elias G. Pease, Cy. Clk.

ROCHESTER, N. Y.—Bids are asked by the east side trunk sewer commission, 35 German Insurance Bldg., until Jan. 23, for constructing the Poplar St. storm water outlet sewer. Hiram H. Edgerton, Chm. Comn.

ATLANTIC CITY, N. J.—The Consolidated Sewerage Co. has been incorporated to construct sewer systems and disposal plants; capital stock, $450,000, with $2,000 paid in; incorporators, Henry Hess, Philadelphia, Pa.; Albert M. Jordan, Atlantic City; John J. Burleigh and Edward A. Armstrong, both of Camden, N. J.

HOBOKEN, N. J.—S. Moos, Wm. Schmidt and others have petitioned the council to construct 18 and 15-in. pipe sewers in five streets in West Hoboken. Levi A. Farr, Town Clk.

MORRISTOWN, N. J.—The Morristown Improvement Society has been making arrangements to secure such legislation as will enable the town to construct a sewer

system. A meeting to discuss the question was called for Jan. 14. W. W. Cutler, John B. Vreeland, Carman F. Randolph and A. Elmer Mills compose the committee.

NEWARK, N. J.—Ernest Adam, Cy. Surv., has submitted plans for the proposed east branch sewer.

RED BANK, N. J.—Hedenberg & Kinsey, 106 Fulton St., New York, have been retained to design and superintend the construction of a system of sewers for this place.

LANSDOWN, PA.—An election is to be held Feb. 18 to vote on the question of issuing $28,000 in bonds for constructing a sewer through Yeadon and Darby to tidewater. Ultimately there is to be a connecting sewer system to drain all that portion of Delaware county south of the main line of the Pennsylvania R. R. and east of Clifton Heights.

McKEES ROCKS, PA.—Bids are asked until Jan 28 for constructing 2,554 ft. of 60-in. brick and about 7,000 ft. of 30 to 20-in. pipe sewers. Engr., R. N. Hunter, McKees Rocks; Wm. Zinkhan, Burgess; Jas. Sproul, Chn. Com.

NEW BRIGHTON, PA.—At a special meeting of the borough council, held Jan. 10, Alexander Potter, 137 Broadway, New York, was retained to prepare a preliminary report for a complete system of sewers and sewage disposal. Surveys are now in progress.

PARNASSUS, PA.—Hedenberg & Kinsey, of New York, have been engaged to design a system of sewers for this place.

PITTSBURG, PA.—E. M. Bigelow, Dir. Pub. Wks., has asked for $1,328,685 for the ensuing year, including: Bureau of engineering and surveys, $66,100; highways and sewers, $524,124; bureau of city property, $75,955, which includes $16,000 for new elevators for city hall and $6,000 for dredging the Monongahela Harbor; bureau of water supply and distribution, $267,000; bureau of public lighting, $247,223; street repaving, $221,170, and bureau of parks, $51,060.

YEADON, PA.—E. H. Harris, of Collingdale, Pa., has completed plans for a system of sewers for this borough. The system will embrace about five miles of pipe sewer, and will cost about $20,000.

ELKTON, MD.—A town meeting was called for Jan. 13 to consider the question of a sewer system.

CHILLICOTHE, O.—The council has directed the city engineer to prepare plans for a system.

CINCINNATI, O.—Bids are asked by the board of administration until Jan. 31 for constructing a trunk sewer in Strong St., according to reports.—The board has approved plans for a trunk sewer in Bloody Run, one mile long, to cost $100,000, work on which will be begun in the spring. It is stated that the construction of this sewer will make it necessary to extend the sewers in the vicinity of Bloody Run, a distance of four miles, at a cost of $400,000.

LOGAN, O.—Bids are asked until Feb. 4 for constructing about 37,000 ft. of 15 to 8-in. pipe sewers, as stated in our advertising columns. H. E. Sparnon, Clk.; Consult. Engr., Frank Snyder, 23 East State St., Columbus, O.

FRANKLIN, IND.—A committee of the council has been apointed to consider the question of improving the system.

GREENSBURG, IND.—It is stated that the question of constructing a system is under discussion by the council.

DETROIT, MICH.—The city engineer has recommended an appropriation of about $250,000 for constructing during the year about 25,000 ft. of sewers.

CHICAGO, ILL.—Bids are asked until Jan. 26 for furnishing 380,000 ft. of oak and pine lumber for the bureau of sewers. W. D. Kent, Comr. Pub. Wks.

CHICAGO, ILL.—A new sewer for the Lake Calumet district is proposed, which will drain Kensington, Burnside, Roseland and South Stony Island region. The diameter of the sewer will vary from 18 ins. at 95th St. to 66 ins. at the south of the Calumet River. The cost is estimated at $350,000. W. D. Kent, Comr. Pub. Wks.

DULUTH, MINN.—W. B. Patton, Cy. Engr., is considering a proposition for changing the sewers of the east end so that they may empty into the canal.

NEBRASKA CITY, NEB.—The city engineer has submitted a report to the council on the proposed South Table Creek storm sewer, 1,540 ft. long and estimated to cost about $25,000.

ST. LOUIS, MO.—Bids are asked by the board of public improvements until Jan. 21 for constructing 2,000 ft. of 30-in. brick and about 8,000 ft. of 24 to 12-in. pipe sewers. Robt. E. McMath, Pres. Bd.

NIAGARA FALLS, ONT.—Two by-laws for sums aggregating $109,000 for a separate sewer system were carried at the election Jan. 6. Of this it is estimated that $10,000 will cover the construction of the trunk sewer system, consisting of 18 and 15-in. pipe sewer and 36 × 24-in. and 48 to 36-in. brick sewers. About $60,000 is for the construction of the lateral system immediately necessary. The surface drainage is to be provided for by direct means to Niagara River. There will be three outlets for the trunk sewers, and they will consist of iron pipe lines carried over the bank, down into the gorge and beneath the Niagara River below the falls. The total length of the proposed system is about 9½ miles. We are informed that work will be begun soon. General plans are complete, but details and specifications are not yet prepared. Charles H. Mitchell, Cy. Engr.; John Robinson, Town Clerk.

STREETS AND ROADS.

BATH, ME.—The construction of a boulevard 6½ miles long between this city and Brunswick, Me., is being discussed by the "Independent."

BRIDGEPORT, CONN.—The board of public works has recommended an appropriation of about $70,000 for paving and $10,000 for sewer work, etc.

BROOKLYN, N. Y.—Bids are asked until Jan. 22 for asphalt repaving in 17 streets, grading and granite-block paving in 6 streets and cobblestone paving in 6; aureties, $1,000 to $12,000. Alfred T. White, Comr. Cy. Wks.—The bill for macadamizing Glenmore Ave. for 3 miles is reported as awaiting the signature of the mayor before being introduced in the legislature. The work will cost $75,000.—East Brooklyn Street Improvement League was organized recently at 879 Gates Ave. by A. Stewart Walsh, J. H. Hart, H. C. Atwood and other taxpayers of that vicinity. A meeting will be held at the same place Jan. 20 to discuss public improvements.

BUFFALO, N. Y.—Bids are asked until Jan. 23 for paving portions of a large number of streets. R. G. Parsons, Secy. Pub. Wks.

NEW YORK, N. Y.—The Sicilian Asphalt Paving Co. has been awarded the contract for paving Pleasant Ave., from 114th to 115th Sts., at $1,185, and F. V. Smith, 411 Lenox Ave., New York, has been awarded the contract for paving 147th St., from the Boulevard to the river, with granite blocks at $6,075.

SYRACUSE, N. Y.—It is proposed to pave portions of 10 streets with asphalt at a cost of about $200,000, and construct pipe and brick sewers in 15 streets at a cost of about $55,000.

HOBOKEN, N. J.—Bids are asked until Feb. 12 for asphalt paving in six streets. Chas. A. Meyer and Tivy & Smith, Cy. Survs.; M. V. McDermott, Cy. Clk.

NEWARK, N. J.—The board of public works is considering the question of paving in 54 streets at a cost of about $600,000.

ALLEGHENY, PA.—J. M. Gearring has been appointed chairman of a committee to report on the feasibility of constructing the serpentine road. Press reports state that this is a proposed road to be built on the line of Federal lane. Consult. Engr., Wm. Glyde Wilkins, Westinghouse Bldg., Pittsburg.

ELKTON, MD.—The question of paving and constructing sewers at a cost of $20,000 is being agitated.

ATHENS, GA.—It is proposed to hold an election to vote on the question of issuing bonds for paving, estimated to cost about $75,000. Prof. D.C. Barrow, Chn. Com.

JACKSONVILLE, FLA.—The board of public works is considering the question of directing the city engineer to prepare estimates for brick paving in a number of streets.

CINCINNATI, O.—It is reported that surveys and estimates are being made for the following improvements, contracts for which are to be awarded in the spring by the county commissioners: Paddock Road, 9 miles, $400,000; Madisonville Pike, 2 miles, $180,000; Fairand Boice Aves., 1½ miles, $24,000; South approach W. Eighth St., 1½ miles, $15,000; Montgomery Pike, 2½ miles, $5,000; Andrew Ave., ¾ mile, $18,000; Indian Hill improvement, 3 miles, $50,000; Beekman St., ½ mile, $20,000; Delta Ave., $35,000; total, $1,242,000. Frank Krug, County Engr., Cincinnati.

TOLEDO, O.—Bids are asked until Feb. 5 for macadamizing a road in Lucas county. Chas. H. Jones, County Audr.—The city solicitor has decided that the bids received Dec. 2 for 16,400 sq. yds. of paving in South Ave., are illegal, and the council has rejected them and asked for new bids. L. P. Harris, Cy. Clk.

INDIANAPOLIS, IND.—We are informed that engineers have been at work for several months on the proposed park system extension, noted in our issue of last week. Topographical surveys are being made, and the boulevard, seven mile long, located. The parks already established are being improved. Plans are being prepared for detailed work in the spring, but it will be some time before any land can be obtained for the park extension and driveway, as the ways and means have not been decided upon. J. Clyde Power, Engr. and Supt. Parks, Indianapolis.

GRAND RAPIDS, MICH.—It is proposed by the board of public works to pave Divis on St. at an estimated cost of from $40,000 to about $70,000.

LANSING, MICH.—Governor Rich has called a convention to be held at Lansing on March 6, to discuss and formulate definite plans for improving the roads of the state.

PEORIA, ILL.—The committee has decided to pave Madison Ave. next spring with asphalt. Geo. Ditewig, Chn. Com.

KIRKWOOD, MO.—The county court has been petitioned to macadamize a road between this city and Webster Groves. Judge Hugh Armstrong, of Oakland, is interested.

PAPILLION, NEB.—The county commissioners have decided to construct a boulevard to South Omaha, according to reports.

DENVER, COLO.—The board of public works received the following bids Jan. 2 for paving 15th St. with asphalt; bids received Nov. 23 for this work were published under Contract Prices Dec. 5: Blake Asphalt Co. (informal), $40,310; Hugh Murphy (informal), $40,932; F. O. Blake & Co. (awarded contract), $47,530; Western Bermudez Co., Ltd., $47,780; Colorado Paving Co., $52,783.

PUEBLO, COLO.—It is proposed by the council to pave Main St.

MANUFACTURING PLANTS.

PATERSON, N. J.—Marinus Houman is preparing plans for a large silk mill to be built by William Bail. The main structure is to be three stories high, 200 × 50 ft.; engine room, 73 × 40 ft.; boiler house, 22 × 38 ft.; all to be constructed of brick. It is said that work will be commenced as soon as bids can be procured and weather permits.

CRANBERRY, PA.—The coal-breaker of A. Pardee & Co. was recently destroyed by fire; reported loss, $100,000.

WYOMING, PA.—The Lookout Breaker, owned by Simpson & Watkins, was destroyed by fire on Jan. 7; reported loss, $99,600.

WASHINGTON, D. C.—It is understood that W. R. Tappan has leased the Ladd warehouse on Union street, and will at an early date establish a bicycle manufactory.

GREENVILLE, S. C.—J. B. Carlisle and B. A. Morgan have incorporated the Carolina Knitting Co., of this place.

AUGUSTA, GA.—The Globe Cotton Mills Co. is reported as overhauling its mill, and will add new spindles and looms.

ROME, GA.—The Trainer Mill Co. has been incorporated with a capital stock of $2,000,000. The company will manufacture cotton, wool and other fibrous materials, iron, steel and brass machinery, etc. Reports state that plans for the buildings will be made at once. Address, David Trainer, Rome, Ga.

ANNISTON, ALA.—The Anniston Iron & Steel Co. has been chartered at this place.

OPELIKA, ALA.—It is understood that B. A. Puckett will establish a knitting mill in this place and is now investigating machinery.

BIRMINGHAM, ALA.—H. S. Bouton and others of Chicago, have purchased six acres of land for a site for a car wheel manufacturing plant. It is stated that J. C. Thompson, contractor, will commence work at once, and the plant is expected to be in operation by May 1, with a capacity of 500 wheels per day. One hundred men will be employed and 100 tons of iron consumed daily. The capacity is to be doubled in twelve months after starting.

CONTRACT PRICES.

BREAKWATER.—Duluth, Minn.—Maj. Clinton B. Sears, U. S. Engrs., informs us that the following bids were received Dec. 26 for building superstructure on the west breakwater at Agate Bay.(1) being the price per ft. for 200 ft. or more of crib and stone-filling and underfilling, and riprap in place, etc., and (2) price per ft. for 200 ft. or more of superstructure, including stone filling:

Bidder.	1.	2.	Total.
A. & D. Sang	$41.75	$11.87	$10,724
John Somerville	37.75	11.55	9,860
Powell & Mitchell (1)	48.75	15.30	12,828
J. Weldon & W. H. Randall	39.00	8.96	9,592
W. McCurdy (2) & A. McCurdy	48.76	12.18	12,818
George Taylor	47.85	17.10	12,990
J. Getz & S. T. Skinner (3)	45.85	16.25	12,420
Samuel Menlece	35.00	12.50	9,500
Hugh Steele	38.24	11.60	9,968
L. McDonald	45.00	11.80	11,360

(1), Marquette, Mich.; (2), Houghton, Mich.; (3), Buffalo, N. Y.; all others, Duluth, Minn.

SEWERS—St. Louis, Mo.—B. H. Colby, Sewer Comr., writes us that the following bids were received Dec. 20, for constructing sewers in Euclid, Ave.; estimated cost, $187,000:

Bids Received at St. Louis, Mo., Dec. 20, for Constructing Sewers in Euclid Ave.

Quantities.		Hill-O'Meara Const'n Co.	H. Ruecking & Co.	*Wilson & Jackson.	*Nash & Dowdle	G. Eyerman, Jr.	Anderson Bros.	†Claus Vieths.
Earth excavation	94,000 cu. yds.	$0.24	$0.25	$0.23½	$0.24	$0.25	$0.15	$0.30
Rock "	1,100 " "	2.00	3.00	2.00	2.50	2.00	1.50	3.00
Brick masonry	14,360 " "	5.66	6.00	5.29	6.00	5.90	4.50	6.25
12-in. pipe	18,800 ft.	.45	.65	.54½	.58	.50	.40	.60
15-in. "	20,440 "	.61	.75	.56	.70	.60	.50	.70
18-in. "	19,000 "	.72	.95	.80	.86	.75	.65	.80
21-in. "	7,000 "	.88	1.20	.90	1.10	.95	.85	1.10
24-in. "	4,650 "	1.18	1.75	1.15	1.40	1.25	1.30	1.45
Junctions	4,660 pieces	.60	.70	.45	.80	.60	1.25	.50
Inlet stone	7,560 sq. ft.	.55	.50	.48	.65	.50	.75	.40
Cast iron	300,000 lbs	.02¼	.02	.01¾	.02	.02	.01¾	.01¾
Wrought iron	25,000 "	.03¼	.04	.02½	.04	.03	.02¾	.03
Vit. brick masonry	700 cu. yds.	9.55	9.50	9.00	8.90	7.25	9.50	5.00
6-in. pipe	100 ft.	.40	.35	.25	.30	1.00	.30	5.00
Total		$173,534	$195,824	$167,350	$189,204	$178,456	$144,992	$194,984

*Chicago, Ill.; all others, St. Louis. †Claus Vieths, August Heman, Louis Skrainka and Fred. W. Abbott.

SEWER PIPE.—Stratford, Ont.—Davis & Van Buskirk, Engrs., have sent us a statement of the bids received Dec. 14 for pipe for main sewers, adding: "We advised advertising in Engineering News, but the committee concluded to have us send letters and specifications to manufacturers; THIS COST AS MUCH AS AN ADVERTISEMENT AND WAS NOT NEARLY SO SATISFACTORY." The bids were as follows:

Quantities.	Ontario Sewer Pipe Co., Toronto, Ont., $8,390.	D. B. Burritt, Stratford and Akron pipes, $9,737.	F. Hyde & Co., Montreal, standard pipe, $8,566.	F. Hyde & Co., Montreal, Scotch pipe, $10,224.	Mc Nally & Co., Montreal, $9,341.	Standard Drain Pipe Co., St. Johns, Quebec, $8,596.	Hamilton & Toronto Sewer Pipe Co., Hamilton, Ont., $9,908.
*24-in. 1,800 ft.	1.25	1.31	1.26	1.55	1.30	1.26	1.20
*20-in. 1,420 "	.75	.85	.75	.97	.88	.73	.70
*18-in. 1,600 "	.52	.62½	.51	.65	.61	.51	.50
15-in. 2,200 "	.37½	.43½	.38	.50	.43	.38	.37½
12-in. 11,880 "	.25¾	.32	.27½	.30	.29	.27½	.25
9-in. 1,700 "	.16	.19	.17	.16	.18	.17	.16
8-in. 700 "	.14½	.16½	.15	.15	.14½	.15	.14

* Double strength.

PUMPING ENGINE.—Washington, D. C.—The following bids were received Jan. 10 for furnishing and erecting an 8,000,000-gallon pumping engine, with boilers and appurtenances, as advertised in "Engineering News:"

Henry R. Worthington, New York	$25,290
Groshon H. D. Pmpg. Co., N. Y.	$29,000 to 32,740
Holly Mfg. Co., Lockport, N. Y.	29,690
Barr Pumping Engine Co., Philadelphia,	$29,500 to 31,000
Pennsylvania Iron Works, Philadelphia	32,500
Snow Steam Pump Works, Buffalo	33,290
Arthur J. Loretz, Brooklyn	34,600
Edward P. Allis Co., Milwaukee	38,000
Nordberg Mfg. Co., Milwaukee	$34,995 and 43,310
Geo. F. Blake Mfg., Co., Philadelphia	38,150

ASPHALT PAVING.—New Orleans, La.—The contract for paving Walnut St., from St. Charles Ave. to Felicia St., with Trinidad Lake asphalt has been awarded to the Barber Asphalt Paving Co., at the following prices: Asphalt paving complete, including grading, etc., $2.80 a sq. yd.; concrete gutter bottoms, $2.20 a sq. yd.; new stone, wingstone, counter curbing and sidewalk curbing furnished and set, 65 cts. a sq.

ft.; old curbstone reclined and reset, 15 cts. a lin. ft.; lumber furnished and set, $20 per M. ft.; brick furnished and laid in walls of culverts, complete, $30 per M. ft.; cast-iron bridge and culvert covers, 4 cts. a lb.

IRON SEWER PLATES.—Baltimore, Md.—The contract for furnishing the city with iron gutter plates has been awarded to S. R. Carr at 1⅝ cts. a lb., and that for sewer manhole covers at 1.45 cts. a lb. It is stated that heretofore these have been purchased in the open market at about 4 cts. a lb.

DRIVEWAY.—Boston, Mass.—Wm. T. Pierce, Engr., informs us that the Metropolitan park commission has awarded the contract for constructing the Mystic Valley parkway, driveway to subgrade, to Wm. H. Mague. The bids were as follows:

Bids Received at Boston, Mass., Jan. 3, for Mystic Valley Parkway.

Bidder.	Earth grading.	Filling material.	8-in. drain.	10-in. drain.	12-in. drain.	Brick masonry.	Rubble mas'y dry.	Circular edgestone	Gravel walks.	Loam surfacing.	Total.
	80,000 cu. yds.	5,000 cu. yds.	2,400 lin. ft.	1,600 lin. ft.	50 lin. ft.	100 cu. yds.	200 cu. yds.	800 lin. ft.	3,500 sq. yds.	16,700 sq. yds.	
J. B. McKenna, 257 Washington St.,	$0 36	$0.55	$4.21	$0.33	$0.40	$17.00	$3 85	$1.25	$1.17	$0.35	$42,581
McCusker Bros., Waltham	0.30	0.80	0.30	0.40	0.50	12.00	4.00	1.50	0.20	0.15	35,790
J. F. O'Brien, 2280 Mass. Ave., N. Cambridge	0.27	0.50	0.30	0.37½	0.50	14.00	3.00	1.25	0.12	0.16⅔	31,648
Craib & Trumbull, Pleasant St., Winthrop	0.23	0.75	0.25	0.30	0.50	13.50	4.00	1.00	0 40	0.12	29,609
Thomas Gavin, 76 N. Beacon St., Watertown	0.23	0.50	0.28	0.40	0.65	12.00	3.00	1.00	0.20	0.17	28,383
John Sheehan & Co., 585 Western Ave., Lynn	0.25	0.45	0.28	0.28	0.50	12.00	2.75	1 00	0 20	0.15	29,150
Martin Gill, E. Somerville, } Patk. H. Byron, Medford, }	0.23	0.45	0.17	0.33	0.50	12.00	2.75	0.95	0.23	0.15	27,671
W. H. Mague, 44 Chestnut St., W. Newton	0 19	0.40	0.25	0.33	0.39	12.00	3.00	1.00	0.20	0.09	23,150

STEEL PIPE.—Duluth, Minn.—The following bids were received Dec. 30 for 1,000 ft. of 60-in. riveted steel intake pipe: (1) being the bid of the Carroll-Porter Boiler Tank Co., Pittsburg, Pa.; (2) S. Freeman & Sons Mfg. Co., Racine, Wis.; (3) Wm. B. Pollock & Co., Youngstown, O.; (4) Variety Iron Works Co., Cleveland, O.; W. B. Patton, Cy. Engr.:

	1.	2.	3.	4.
60-in. steel pipe, 1,000 ft.	$10.25	$9 11	$18.67	$16.50
Flexible steel joints, 4 each	600.00	398.25	920.00	360.00
Rigid " " 6 "	200.00	82 00	128.00	60.00
Steel reducer pipe, 1	600.00	9 7.00	1 383.00	1,16[illegible].00
Steel pipe for well con'n, 1	175.00	191.00	250.00	250.00

WATER-WORKS TUNNEL.—Colorado Springs, Colo.—H. I. Reid, Cy. Engr., has sent us the following statement of the bids received Dec. 23 for constructing the Strickler tunnel, as advertised in Engineering News. The bid of Pilcher Bros. was rejected as informal and all bids rejected; subsequently, however, the contract was awarded to Wilson & Jackson:

Bids Received Dec. 23, for Constructing Strickler Tunnel, Colorado Springs, Colo.

Bidder.	Tunnel Excavation. 2,000 ft.	2,000 ft.	2,242 ft.	Timbering. 2,000 ft.	Earth. 2,000 cu. yds.	Rock. 2,000 cu. yds.	Cement mortar. 100 cu. yds.	Concrete. 100 cu. yds.	Total.
Geddes & Series, Denver, Colo.	$17.00	$17.50	$18.00	$8.00					$135,056
	17.00	17.50	18.00	8.00	$0.50	$3.00	$15.00	$12.00	135,056
E. Stenger, Omaha, Neb	20.25	21.75	21.75	10.00					172,329
	19.25	21.75	23.75	10.00	0.40	4.50	16.15	14.25	168,087
Shailer & Schniglau Co. Chicago	19.75	19.75	19.75	9.00					152,379
	19.75	19.75	19.75	9.00	0.50	4.00	12.00	9.00	152,379
Wilson & Jackson, Chicago, Ill	12.90	12.90	12.90	4 76					99,916
	13.00	13.90	13.90	5 40	0.90	1.90	21.00	18.75	107 438
Pilcher Bros., North Baltimore, O	7.49	7.99	8.49	4.00					64 794
	7.49	7.99	8.49	4.20	0.30	2.50	6.50	5.50	65,194
Clough & Anderson, Colorado Springs	14.00	19.00	23.00	4.75					132,666
	15.00	19.50	23.25	4.75	0.20	1.20	9.00	9.00	135,226
Ord & Swope, Colorado Springs, Colo	14.00	15.00	19.00	2.80					109,848
	19.00	20.00	21.00	2.80	0.45	0.80	6.00	5.50	134,332
G. W. Atkinson & Sons, Colorado Springs	15.00	15.00	15.00	7.50					120,430
	15.00	15.00	15.00	7.00	1.75	3.00	13.00	10.00	119,130

SEWER PIPE.—Arlington, Mass.—Bids for a supply of sewer pipe, as advertised in Engineering News, were received Dec. 28 as follows: (1) being discount on the eastern standard price list for 400 ft. of 4-in., 14,000 ft. of 6-in., 26,828 ft. of 8-in., 878 ft. of 9-in., 591 ft. of 10-in., 5,648 ft. of 12 in., and 2,430 ft. of 15 in., all new standard socket pipe, with branches; (2) discount for 1,172 ft. of 8-in., 2,176 ft. of 10-in. and 452 ft. of 12 in., all deep and wide socket pipe; (3) discount for 1,500 ft. of 15-in. and 4,300 ft. of 18-in. deep and wide socket double-strength pipe; George A. Kimball, Engr., Exchange Bldg., Boston:

Bidder.	Kind of Pipe.	1.	2.	3.
Berry & Ferguson, Boston	Union (Akron)	67%	59%	54%
Pierce Winn Co., Arlington	Portland	67	59	54
Waldo Bros., Boston	Akron	67	59	54
Portland Co., Boston	Portland	67	59	54
Perrin Seamans & Co., Boston	Central (Ohio River)	67	59	54
Bradley Knowles, Arlington	Akron	67	59	54
R. W. Shattuck, Arlington	Union (Akron)	67	59	54
Sylvester Stickney, Arlington	Union (Akron)	67	59	54
M. B. Paige, Peabody	Granite (Ohio River)	67	59	54
Fiske Holmes & Co., Boston	Union (Akron)	67	59	54
Geo. D. Goodrich, Boston	Robinson (Akron)	67	59	54
D. W. Lewis, Boston	Union (Akron)	67	59	54
Pierce Winn Co., Arlington	Union (Akron)	67	59	54

BRICK PAVING.—Boone, Ia.—A contract for 8,245 sq. yds. of paving, with two courses of brick, was let Jan. 8 to J. B. McHose, of Boone, at $1,145 a sq. yd. R. M. Mitchell, Cy. Engr.

CAST-IRON PIPE.—Hatfield, Mass.—E. C. & E. E. Davis, Engrs., Northampton, inform us that the contract for water pipe, as advertised in Engineering News, has been awarded to M. J. Drummond, of New York, at the following prices: 35 tons of 4-in. $21.40 a net ton; 210 tons of 6-in., 386 of 8-in., and 2 of 20-in., $20.40; 3 tons of specials, $45 a ton; total, $13,083. There were nine bids, the highest being at $15,327.

ARTESIAN WELL.—Norfolk, Va.—We are informed that P. H. & J. Conlan have been awarded the contract for boring an experimental artesian well, the bids being as follows:

Thomas B. Harper, Jenkintown, Pa., 2,000 ft., $16,000; 2,500 ft., $21,000.

C. L. Parker, Norwich, N. Y., 2,000 ft., $19,000; 2,500 ft., $25,750.

C. A. Ray, Providence, R. I., 2,000 ft. $13,540; 2,500 ft., $16,540.

National Artesian Well Co., Providence, R. I., 2,000 ft., $19,800; any greater depth to be agreed upon.

Uriah White, Asbury Park, N. J., 2,000 ft., $25,000; 2,500 ft., $50,000.

P. H. & J. Conlan, Newark, N. J., 2,000 ft. $10,300; 2,500 ft, $16,150.

The bids are secured on the following basis, as to size of pipe:

For 2,000 ft. well; 600 ft. of 12-in. pipe; 800 ft. of 10-in. pipe; 600 ft. of 8-in. pipe.

For 2,500 ft. well: 600 ft. of 12-in. pipe; 800 ft. of 10-in. pipe; 1,100 ft. of 8 and 6-in. pipe.

The length of each size of pipe is fixed arbitrarily for a comparison of bids, but may be more of less in sinking the well.

LEVEE WORK.—New Orleans, La.—Capt. McC. Derby, U. S. Engr., is reported to have awarded the following contracts on Jan 3: Star levee, 934 miles below Cairo, section No. 1, about 16,800 cu. yds., awarded to Robt. McNamara, New Orleans, at 11.91 cts. per cu. yd.; section No. 2, about 15 290 cu. yds., Robt. McNamara, at 10.75 cts; Stella levee, 986 miles below Cairo, 7,000 cu. yds., D. D. Dannoy, of Dalcour, La., at 11 cts.; Promised land levee, 988½ miles below Cairo, 10,700 cu. yds., Barbour & Rupie, at 15 cts.; Bertrandville levee, 991 miles below Cairo, 13,900 cu. yds., James Cooney, of New Orleans, at 11.98 cts.; Fanny levee, 993½ miles below Cairo, 15,300 cu. yds., Chas. G. Dannoy, St. Sophie, La., at 11 cts., Fairview levee, 993 miles below Cairo, 26,000 cu. yds., Chas O. Dannoy, at 11.4 cts.; Bon ejour levee, 997 miles below Cairo, 4,100 cu. yds., Chas. G. Dannoy, at 10¾ cts.; Mon Secour levee, 999 miles below Cairo, 16,500 cu. yds., Simon Leopold, Phœnix, La., at 11 cts.; Poverty Point levee, 1,000 miles below Cairo, 5,300 cu. yds., at 11 cts.

Bids as follows were rejected as being too high: Winchester levee, 30,800 cu. yds., at 16 cts.; Welcome levee, 33,500 cu. yds., at 11.40 cts.; St. James Church levee, 25,500 cu. yds., at 12.90 cts.; Columbia Garden, Nine-Mile Point, section 1, about 28,100 cu. yds., at 12¾ cts.; section 2, about 28 400 cu. yds., at 11.70 cts.

Bids on St. James estate levee, Davis to Lone Star, Fairfield levees, Elmwood levees, Slaughter House extension levee, are still being considered.

MISCELLANEOUS CONTRACTS AND SUPPLIES.

GUN FORGINGS.—Washington, D. C.—Bids are asked until Feb. 3 for gun forgings for the batteries of the battleships "Kearsarge" and "Kentucky." W. McAdoo, Acting Secy., Navy Dept.

PIER GARDENS.—New York, N. Y.—The dock board has passed a resolution recommending the appointment of a consulting architect to prepare plans for the summer gardens to be erected on certain piers.

STEAM ROLLER.—Jamaica, N. Y.—J. J. McLaughlin, County Engr., is said to have recommended that the county purchase a steam road roller.

DREDGING.—Brooklyn, N. Y.—Bids are asked until Jan. 21 for about 150,000 cu. yds. of dredging in Wallabout Basin. Alfred T. White, Comr. Cy. Wks.

BUOYS, ETC.—Tompkinsville, N. Y.—Bids are asked until Jan. 28 for furnishing buoys and appendages and mooring chains. A. S. Snow, Lighthouse Inspector.

STEAM PROPELLER.—Washington, D. C.—Bids are asked until Feb. 8 for the construction of a steel and wood steam propeller for duty on the Pacific Coast; appropriation, $.00,000. S. Wike, Acting Secy. Treasury Dept.

CONDENSER.—Boston, Mass.—Bids are asked until Jan. 30 for furnishing and installing a new condenser for the lighthouse tender "Myrtle," as stated in our advertising columns. Maj. N. R. Livermore, U. S. Lighthouse Engr.

GAS EXTENSIONS.—Boston, Mass.—The Dorchester Gas Light Co. has been authorized to increase its capital stock $150,000, of which $30,000 will be used for extensions to the plant.

ORE DOCKS.—Ashland, Wis.—Local papers state that the Wisconsin Central R. R. Co. has awarded a contract to the Butler-Ryan Co., of St. Paul, for rebuilding its ore docks in this city and putting in new pockets, which will be the largest in the world. The work will cost about $75,000.

DRY DOCK.—New York, N. Y.—The organization of a company to build a new dry dock near the Erie Basin was noted in our issue of Dec. 19. It is reported that the construction will probably be commenced within six or eight weeks. Townsend & Downey, shipwrights, at the Erie Basin, pier No. 2, are interested.

DAM.—Eau Claire, Wis.—Lang & Alderman, of this city, are making soundings and a general survey of the Eau Claire River at Eau Claire, with a view to developing water power for Eau Claire parties. A dam 28 to 32 ft. high is contemplated.

BRIDGE GATES.—Milwaukee, Wis.—The city is desirous of obtaining information regarding gates for drawbridges with a view to adopting them in the city. Geo. A. Benzenberg, Cy. Engr.

ORE DOCKS.—Marquette, Mich.—The Lake Superior & Ishpeming R. R. is to build extensive ore docks at this place. S. S. Neff, Ch. Engr.

INDUSTRIAL NOTES.

LEWIS NIXON, of Elizabeth, N. J., has been awarded the contract to build 13 steel boats for the Cleveland Steel Canalboat Co. Each boat will be 100 ft. long, 18 ft. beam, and 12 ft. depth of hold.

THE KEAGY & LEAR MACHINE & FOUNDRY CO., of Cincinnati, O., has ordered a large equipment of machine tools from the Lodge & Davis Machine Tool Co., and expects to have its plant in operation within 30 days.

THE SHERIFF MACHINERY CO., of Pittsburg, Pa., is building a steamboat to be used in pumping gold from the bottom of the Frazier River in British Columbia; it will be equipped with two double engines of 100 HP., two Columbia compound boilers of 110 HP., two 6¼ × 8 ins. double cylinder, double drum hoisting engines, and an 8-in. centrifugal sand dredging pump with 25-HP. engine attached.

THE IMPERIAL BALL-BEARING AXLE CO., of Chicago, Ill., has made arrangements with the Gananoque Spring & Axle Co., of Gananoque, Ont., for the exclusive manufacture of the Imperial ball-bearing axles in Canada, having sold to the Ontario company the shop right for a term of years.

THE SOUTHERN CHAIN WORKS, of Louisville, Ky., has been organized to manufacture chains, and will have its offices in the Columbia building.

THE DAYTON IRON FENCE CO., of Dayton, O., will remove its plant to Piqua, O., and has already made contracts for the erection of buildings. The company will manufacture iron, steel and wire fence, and light ornamental work.

THE TRETHEWEY MFG. CO., of Pittsburg, Pa., will soon make application for a change of its charter and will change its name to the Pittsburg Shear Knife & Machine Co.

MR. WILLIAM LODGE, of Cincinnati, O., has sold his interest in the Lodge & Davis Machine Tool Co., and will devote his attention to the Lodge & Shipley Machine Tool Co., according to press reports.

THE NATIONAL PUMP CO., 206 West Eight St., Kansas City, Mo., has been organized with a capital stock of $50,000, to manufacture the Wonder pump. This pump is a spiral rotary pump, consisting of two spirals, right and left-handed. Mr. Thomas A. Keyer is the President, and Mr. W. B. Wier is Secretary and Treasurer.

THE MISSOURI DREDGE CO., of Kansas City, Mo., has built during the past year dredges for Mexico, the United States of Colombia, South America and Guatemala and is now working on additional orders from its customers in these countries.

THE PITTSBURG REDUCTION CO., of Pittsburg, Pa., has moved its office in New York, N. Y., from No. 4 Havemeyer Building to Nos. 10 and 11, that it might have larger and more commodious quarters for its business, which it states has greatly increased since the New York store was opened.

THE AMERICAN BALL NOZZLE CO., 837 Broadway, New York, has an order from the city of Philadelphia for 282 ball fire nozzles. It is stated that the Pennsylvania Railroad Co. is equipping its entire system with ball nozzles, and that Indianapolis, Ind., has equipped its fire department with them.

THE NEW YORK EQUIPMENT CO., of New York, N. Y., recently shipped a cargo composed of four 65-ton compound locomotives, one switch engine, two passenger cars, and 60 freight cars, to Jamaica, West Indies. This equipment is for the use of the Jamaica Railway, which is being built by James P. McDonald & Co., of New York.

THE D. L. BARKER ARTESIAN WELL CO., of Providence, R. I., has assigned to Wm. F. Cady, according to reports. The liabilities are $8,000, and the assets consist largely of tools.

THE WM. A. HARRIS STEAM ENGINE CO., of Providence, R. I., has an order from the Pennsylvania Iron Works Co., of Philadelphia, for the Quincy Market Cold Storage Co., of Boston, for a 24 and 44 × 60 tandem compound engine, condensing cylinders. This company is also building for the Whiting Paper Co., of Holyoke, Mass., a cross compound engine, 16 × 26 × 36, condensing.

with a 16-ft. fly-wheel, 44 ins. face reheating receiver, and a special cylinder oiling device. Among other recent orders are engines for George E. Barnard, Lynn, Mass.; the Boston Shredded Cereal Food Co., Worcester, Mass.; B. F. Goodrich Co., Akron, O.; Milville, (N. J.) Mfg. Co., and the Piedmont, (S. C.) Mfg. Co.

JACKSON & MOSS, of Des Moines, Ia., inform us that during the year 1895 they have constructed complete water-works plants at Bancroft, Malcom and Alta, Ia., and at Amboy, Minn., and now have in course of construction works at Lake Mills and Columbus Junction, Ia.

THE PITTSBURG LOCOMOTIVE WORKS, of Pittsburg, Pa., have an order from the Pittsburg & Lake Erie R. R. for eight freight engines.

H. K. PORTER & CO., of Pittsburg, Pa., will soon ship two small compressed air mine locomotives to the Peerless Coal & Coke Co., Vivian, W. Va.

MANSFIELD & CO., of Pittsburg, Pa., manufacturers of babbit metal, brass finishings, etc., recently had their plant damaged by fire to the extent of $15,000.

THE SOUTH HARRISBURG CHAIN WORKS, of South Harrisburg, Pa., will, according to report, enlarge its plant, increasing the number of fires from 40 to 80.

THE LEIDECKER TOOL CO., of Marietta, O., is reported as soon to open branch works at Waverly, O.

THE STANDARD SCALE & SUPPLY CO., of Pittsburg, Pa., has furnished the Westinghouse Machine Co. with a 30-ton scale; the city of Altoona with a wagon scale, and an equipment of scales for the Johnson Coal Mining Co., Fayette City, Pa., and the Cambria Iron Co., Johnstown, Pa.

THE WENDLER MACHINE CO., of Carthage, N. Y., will soon resume business under the name of the Adiron dack Machine Co.

THOMAS CARLIN'S SONS, of Allegheny, Pa., who recently purchased from the Southern Iron & Steel Co. the entire plant and grounds of the old Roane Iron Co.'s mill, of Chattanooga, Tenn., will soon dismantle the works and the machinery, rolls and furnaces will be moved elsewhere. This plant is one of the largest in the South, and is equipped with modern machinery, reported to have cost $200,000. According to the "Chattanooga Times" this property can be purchased for $50,000, and an effort is being made to keep the works in Chattanooga.

ANTHONY P. SMITH, of Newark, N. J., has vested his interest in his well-known water main tapping appliance in a new company which is to operate, manufacture and control the machine. The litigation between Mr. Harlan and Mr. Smith has been ended, the new company having purchased Mr. Harlan's interest. Mr. John M. Gwinnell is reported to be the prime mover in the new company.

SPAULDING, JENNINGS & CO., proprietors of the West Bergen Steel Works, Jersey City, N. J., made an assignment to Charles S. Haviland. Mr. Thomas H. Spaulding, who is also connected with the Spaulding Machine Screw Co., of Buffalo, N. Y., and is a manufacturer of bicycle fittings at Buffalo, has made an individual assignment of the bicycle fittings business to John R. Keim. It is stated that the trouble is only temporary. The assets are placed at $300,000 and the liabilities at $200,000.

THE J. G. BRILL CO., of Philadelphia, Pa., has been awarded a contract for furnishing the Milwaukee St. Ry. Co. with 20 new cars. They are to be of the double truck type, with detachable vestibules, 26 ft. long and 36 ft. over all.

THE PITTSBURG TESTING LABORATORY, LTD., of Pittsburg, Pa., reports that it is inspecting orders aggregating over 30,000,000 lbs. of ship steel for lake vessels to be built by the Detroit Dry Dock Co.; the American Steel Barge Co., and F. W. Wheeler & Co., of West Bay City, Mich. Also the steel for the new library and museum building, Milwaukee, Wis., the draw bridge for the Hammond & Blue Island R. R. and a water tower for Harman & Evans, Peoria, Ill. These orders were placed with the company's Detroit and Chicago representatives, Mr. C. C. Bonfield and Mr. T. L. Condron, respectively.

THE EDWARD P. ALLIS CO., of Milwaukee, Wis., is building 11 compound blowing engines for the Carnegie Steel Co., of Pittsburgh, Pa. The contract price is $330,000. Also one of the same capacity for the Schloss Iron & Steel Co. Mr. Irving D. Reynolds, manager of the pumping engine department, reports that the company is building four 12,000,000-gallon compound water-works pumping engines for the city of Pittsburg, Pa., to pump against a 420-ft. head; the steam cylinders are 50 and 92 ins. diameter; 64-in. stroke; also two triple expansion high-service pumping engines of 5,000,000 gallons capacity each for the same city. Contract price, $28,000. Mr. Reynolds further reports that the company has about $150,000 worth of contracts on hand for machinery in their mining department, among which is a 3,000,000-gallon pump, compressors, hoists, etc., for South Africa.

THE VULCAN IRON WORKS CO., Toledo, O., reports that it is having a very active trade on steam shovels for early spring delivery. A majority of the sales are for shovels to be used in the Messaba Range district, and the others are scattered from Massachusetts to Alabama.

THE WISCONSIN BRIDGE & IRON CO., Milwaukee, Wis., reports the following contracts on hand: Buffalo, N. Y., a 175 ft. lift bridge, 24 ft. wide, two 8-ft. sidewalks, 500 tons; Minneapolis, Minn. Como Ave. riveted highway bridge, 360 ft. long, 24 ft. wide, two 8-ft. sidewalks, 500 tons; Milwaukee, Wis., roof for the new post office, 400 tons, and the iron work for the Milwaukee public library, 800 tons; Great Northern R. R., Max Toltz, engineer of bridges, two 180-ft. riveted swing spans, 200 tons; Milwaukee & Lake Winnebago R. R., several bridges, swing and girder types, 600 tons; Wisconsin Central R. R., about 14 spans, 600 tons; Osceola, Wis., a combination highway bridge, 2,000 ft. long, over St. Croix River, having a 240-ft. draw span. The company also has contracts for a large number of highway bridges.

THE WHITING FOUNDRY EQUIPMENT CO., of Harvey, Ill., informs us that its recent fire, reports of which have been widely circulated, will not prevent it from giving all orders prompt attention, and that bids and estimates can be furnished without delay, as the fire was practically confined to the office building.

THE Q. & C. COMPANY, of Chicago, Ill., has been successful in having its receiver discharged and the company has taken its business into its own hands. The legal complications have been settled and the company has paid in full every claim, with 6% interest added. The company is doing a good business and now that the financial affairs have been put on a sound basis the company expects to largely increase its trade. The company's managers merit congratulations for their straightforward course and their industry and perseverance during the trying times of the past two years.

MR. L. R. POMEROY, Assoc. M. Am. Soc. M. E., has been appointed sales agent for the Cambria Iron Co., and the Latrobe Steel Co., and has opened an office at 35 Wall St., New York city.

JOHNSON BROTHERS, contractors of Omaha, Neb., have brought suit against the Union Depot Co. for $60,000 for alleged breach of contract, the Depot company ordering them to cease work on Jan. 20, 1891, by reason of the fact that the city of Omaha had failed to deliver certain bonds to them, hence compelling a large sum of money expended by the contractors to remain idle.

G. P. NICHOLS & BRO., Chicago, Ill., have secured the contract for equipping the Michigan Central R. R. Co.'s swing bridge at Bay City, Mich., with electric operating machinery. The contract includes a compressed air plant for operating the end lifting mechanism.

THE BERLIN IRON BRIDGE CO., of East Berlin, Conn., has just completed for the town of Houlton, Me., a new iron bridge 360 ft. long and 18 ft. wide, with a sidewalk 5 ft. wide. The bridge company furnished the entire bridge, substructure and superstructure complete.

MR. JAMES E. WOODBRIDGE, for many years at the head of the small tool department of the Pratt & Whitney Co., of Hartford, Conn., has recently acquired an interest in, and has become the president of the Brady Mfg. Co., of York and Washington Sts., Brooklyn, N. Y. It is now the intention of this company to take up the manufacture of a full line of small tools of every description in addition to its regular business of special automatic and labor saving machinery, and special tools and fixtures, including complete plants for the manufacture of specialties.

MR. THOMAS B. HARPER, of Jenkintown, Pa., has just finished a well at Old Point Comfort, Va., 945 ft. deep, that flows 6 ft. above the surface 100,000 gallons per day at a temperature of 75°. Mr. Harper informs us that this is the first successful attempt to drive a well at this place. We are also informed that the well put down at Hazleton, Pa., for the Diamond Water Co., at a depth of 500 ft., furnishes 288,000 gallons daily.

MR. B. F. ROUND, contract pipe layer, of Chattanooga, Tenn., has been awarded the contract for a system of water-works for fire protection for Weimar, Tex., consisting of stand-pipe, 13 ft. diameter and 100 ft. high; one mile of 10, 8, 6 and 4-in. cast iron pipe; 8 fire hydrants and the necessary gate valves.

THE WHITING FOUNDRY EQUIPMENT CO., Harvey, Ill., had its office destroyed by fire on the evening of Jan. 6. The drawings and records were saved, and new headquarters convenient to the works were engaged at once. The fire communicated to the erecting shop, damaging a portion of the roof, but the machine, cupola and blacksmith shops, foundry building and power house were not harmed. Work will continue as usual. The space formerly occupied as an office will be added to the machine and erecting shops to increase the capacity of these departments, and a new and separate office building will be erected at once. The company announces that it will be able to handle all business as usual without delay or interruption.

THE AMERICAN BRIDGE WORKS, of Chicago, Ill., were recently damaged by fire to the extent of $65,000. Treas. F. M. Steele states that the machinery destroyed constitutes the main loss. Among other contracts is one for the structural iron for the Great Northern hotel addition and theater. Operations will be resumed as soon as possible.

THE SOUTHERN MALLEABLE IRON CO., of Chattanooga, Tenn., was recently sold at auction, on a decree of the United States circuit court, to the Reese-Meehan Brake Shoe Co., for $45,000. W. P. Tuttle, F. G. Kammerer, and the Hinson Mfg. Co., of Chicago, have entered a protest by counsel, on the ground that the sale was not legally authorized.

THE STEEL MOTOR CO., of Cleveland, O., has made arrangements to remove its works to Johnstown, Pa., and it is stated that the work of removal will commence at once.

THE NATIONAL TUBE WORKS CO., of McKeesport, Pa., has resumed operations in full, giving employment to 3,000 men. It is stated that the National Rolling Mill Co., has also resumed operations, giving work to about 2,000 men.

THE AMERICAN ALUMINUM CO., of Fairlawn, Mo., a suburb of St. Louis, is reported as having about completed its plant. It is stated that this plant will have a capacity of 20,000 lbs. of aluminum every 24 hours.

THE FRANKLIN STEEL CASTING CO., of Franklin, Pa., has fired up its steel melting furnaces and expect soon to be running on full time in all departments.

KENT & STANLEY CO., Ltd., of Providence, R. I., is the corporate name of a new company formed to conduct the business of the old firm of the Kent & Stanley Co., a settlement having been made by this latter company with the J. W. Bishop Co., its principal creditor. The capital of the new corporation is $500,000, of which 60% is preferred stock. Pres., Edward Thayer, Treas., Edward C. Huxley.

THE Q. & C. CO., of Chicago, Ill., informs us that it is about to put upon the market a product to be known as the Q. & C. Carbolineum or Wood Preservative, a compound formerly made by a Buffalo concern. The need of an efficient and economical wood preservative was called to the attention of the Q. & C. officials by their experience in the introduction of the plates and they state that careful tests have convinced them of the efficacy and practical value of the compound which they are about to place upon the market. Besides preserving wood against decay it is claimed to be a protection against the teredo.

THE FOSTORIA BRICK & PAVING CO., of Tiffin, O., has, according to press reports, asked the court for a receiver on the ground that the business is being conducted at a loss.

DOWD & McCARTHY, sewer contractors, of Orange, N. J., have dissolved partnership and the contracting business will be continued by Henry M. Dowd.

MACPHERSON, WILLARD & CO., owners of the Union Steam Forge at White Hill, N. J., are working night and day on a stern frame, and rudder for the steamer "Irrawaddy," which was recently stranded at Asbury Park. The stern frame will weigh 20,000 lbs. and the rudder 10,000 lbs.

THE ROCKY MOUNTAIN POSTAL TELEGRAPH CO., has been organized at Helena, Mont., and it is stated that the company will purchase the Rocky Mountain Telegraph Co., and extend its lines to Ogden, Salt Lake and Denver. A contract has been made with the Postal Telegraph Co. for connections at Spokane, Denver and Cheyenne. Bonds for $400,000 will be floated for the work of construction.

JAMES S. CONDON, of South Brookville, Me., has been awarded the contract for furnishing 5,000 yds. of granite paving blocks for Bangor, Me.

THE CARNEGIE STEEL CO., Ltd., and the H. C. Frick Coke Co., have established an office in the Harrison Bldg., corner 15th and Market Sts., Philadelphia, Pa.

W. H. HAYDEN & CO., engineers and contractors, of Bath, Me., have just completed a system of water-works and fire protection at Mechanics Falls, Me.

THE KOUNTZ BROS. CO., of Harmarville, Pa., a suburb of Pittsburg, has orders that will keep its plant running all of next season. The orders are about evenly divided for shale paving brick and red foundation brick.

R. SEELIG, of Chicago, Ill., manufacturer of engineering and surveying instruments, has purchased all rights, tools, etc., of the late firm of Seelig & Kandler, and will continue the business of that firm, with offices at 192-195 E. Madison St.

THE CONNECTICUT ENGINEERING CO., of Norwich, Conn., has closed a contract with William C. Clark, of Wakefield, R. I., for the construction of the Sea View Ry., from Watch Hill, through Point Judith and Narragansett Pier, to Wickford; also for the Narragansett Electric Ry., from Kingston Junction to Narragansett Pier. The two roads will be about 40 miles long and are estimated to cost $500,000.

THE UNION BOILER WORKS, of Lebanon, Pa., have been reorganized and Mr. E. M. Boltz has been elected president.

THE LUCIEN & CHARLES O. BARNES CO., of Buffalo, N. Y., has been organized with a capital stock of $100,000, and will manufacture bicycles. It is stated that operations will commence at an early date, the new company having the building of the F. P. Little Co., for its factory. Address, John L. Williams.

THE AMERICAN AUDIBLE BLOCK SIGNAL CO., has been organized at Buffalo, N. Y., with a capital stock of $4,000,000. Pres., Frank S. McGraw; Vice-Pres., Arthur D. Bissell; Secy. and Treas., C. W. Hammond, all of Buffalo. This company has equipped the Chicago & Eastern Illinois R. R. Co. with its signal and is now negotiating for equipping several trunk lines entering Chicago.

LANG & ALDERMAN, of Eau Claire, Wis., is the name of a new firm of contracting engineers, composed of Robert A. Lang and C. A. Alderman. The specialties will be general hydraulic engineering, dams and river improvements. We are informed that this firm is making soundings and a general survey of the Eau Claire River, at Eau Claire, with a view to developing water power for Eau Claire parties. A dam, 28 to 32 ft. high is contemplated.

THE GATES ELECTRIC MFG. CO., J. Holt Gates, Pres., Monadnock Bldg., Chicago, has recently received the following contracts: Furnishing a 1,000 light new Gates dynamo to the Stamford hotel, Chicago; a 600 light new Gates dynamo to the Bellaire Stamping Co., Harvey, Ill.; a 120 HP. generator to the Bloomington (Ill.) City Ry.; four 150 HP. railway generators for the Inter-Urban R. R., operating between Elkhart and Goshen, Ind., also a 400 light dynamo for the government insane asylum at Phoenix, Ariz., and a 400 light, machine for the military prison at Yuma, Arizona.

THE LASSIG BRIDGE CO., of Chicago, Ill., has been awarded contracts as follows: Furnishing 226 coal spouts, plate girder and lattice span bridges, amounting to about 400 tons for the Duluth & Iron Range R. R., and four 150 ft. spans for the Des Moines river bridge for the Chicago, Rock Island & Pacific R. R. Chf. Engr., A. Ziesing.

THE BROOKS LOCOMOTIVE WORKS, of Dunkirk, N. Y., has recently shipped five ten-wheel engines to the Mexican Central Ry. They have painted iron instead of planished jackets.

THE BERLIN IRON BRIDGE CO., of East Berlin, Conn., has just completed for the Windsor Co., of North Adams, Mass., a new fire-proof store house, 70 × 125 ft. The construction is composite, being iron and brick. The building is fire-proof, no wood work being used. The floors are made of terra cotta.

THE CARPENTER STEEL CO., of Reading, Pa., has received an order for over $600,000 worth of projectiles for the government. The company has had to decline part of the order, owing to the short time allowed for filling it.

THE CRAMP-HOADLEY CO., of New York, N. Y., was recently organized with a capital stock of $1,000,000. The directors are Charles H. Cramp, Henry W. Cramp, and Edward S. Cramp, of William Cramp & Sons, Philadelphia; William W. Cook, New York City, and J. H. Hoadley, of Hoadley Bros., Chicago. It is understood that this company will absorb all the rights of the Wheelock Engine Co. and the Improved Greene engine, together with the Greene-Wheelock and Hill valve gear of Worcester, Mass., the Hoadley engine and the Hoadley rope transmission. It has also taken in the various interests of the New England Engineering Co. and Hoadley Co., of Illinois, as well as the various interests of Hoadley Bros. in California and the East. This company will also handle the output for the land use and stationary purposes of Cramp Shipbuilding Co. and The I. P. Morris Co., of Philadelphia. Offices are established in the Postal Telegraph building, New York, and also at Philadelphia, San Francisco and Chicago. The works, at Worcester, Mass., and at Chicago, will continue and be enlarged, in addition to the erection of special works at Philadelphia.

THE SCHENECTADY LOCOMOTIVE WORKS, of Schenectady, N. Y., recently received orders for 4 heavy locomotives for the Boston & Albany R. R., 5 for the Midland Terminal R. R., of Colorado; 5 for the New York, Chicago & St. Louis R. R., and 5 compound engines for the Fitchburg R. R.

L. C. TRENT & CO., of Salt Lake City, Utah, have been awarded the contract for an electric light and power plant for William Church's mine at Morenci, Ariz. Work will be commenced at once.

THE PACIFIC LUMBER CO., of Salt Lake City, Utah, has secured the contract for building the new hoisting works for the Morgan mine.

THE TERRE HAUTE CAR WORKS CO., of Terre Haute, Ind., is said to intend starting up its works about Feb. 1. This plant has been idle nearly two years, during which time it has been enlarged and improved. About 1,000 men will be employed.

RUSSIAN RAILWAY CONTRACTS.—According to the Salt Lake City "Tribune," Turkish complications have made Russia even more desirous of completing its railway and to accomplish this object, Russia has sent an agent to negotiate with American contractors. This agent, who is now in Seattle, is Count De Tolance, a civil engineer, and is said to be conferring with a San Francisco firm, with the object of letting a contract for the construction of part of the road.

MORRIS & SON, who have had a crushed lime plant at Birmingham Station, on the P. R. R., are building a large crushed lime plant near Milroy, Pa., where they have leased a large lime stone quarry.

THE ROANOKE MACHINE WORKS, of Roanoke, Va., is building a steel car for carrying coal and ore.

THE FALCON BRONZE CO., Youngstown, O., has nearly completed its plant. Among other large orders which it has already received are three tons of mill brasses for the Canton (O.) Rolling Mill Co., and seven tons of engine brasses for Wm. Tod & Co., of Youngstown.

THE TAYLOR-WILSON MFG. CO., Allegheny, Pa., is putting in a new 10-ft. boring mill, a six-ton jib crane and other machinery. The company has an order from the Westinghouse Electric & Mfg. Co. for 12 large top and bottom dynamo fields, each 7 tons, and a pair of socket tapping and spindle machines to go to France, ordered by the Ol. Well Supply Co. The company is also building two machines for molding large gear wheels and has orders from Laughlin & Co., Harbison & Walker and Riter & Conley for special castings for machinery.

THE LOEB FOUNDRY, of Decatur, Ill., has added a department to its plant for the manufacture of malleable castings.

THE CARNEGIE STEEL CO., of Pittsburg, Pa., will soon erect a one-story steel and fire-proof addition to its building on Fifth Ave., to be used as a blue print room. The building will be 100x25 ft.

THE BERLIN IRON BRIDGE CO., of East Berlin, Conn., have just completed for the H. W. Johns Mfg. Co., at Brooklyn, N. Y., a new dryer house, built entirely of steel.

RUSSIAN TRADE.—The "Commercial Gazette," of Cincinnati, states that a syndicate of Cincinnati manufacturers, among whom are Lodge & Davis Machine Tool Co., Lane & Bodley Co., Fay & Egan Co., American Laundry Machine Co., Laidlaw-Dunn-Gordon Co., and others, is being formed to extend trade throughout Russia. Mr. Geo. S. Weinberg, a native of Russia, is making the translation of the catalogues of the various firms into the Russian language. Mr. Weinberg states that American machinery is preferred by the Russians to the products of any other country, and that manufacturers of iron and wood-working machinery, laundry machinery, sewing machinery, and machinery for driving power have a great field in that country.

THE CARNEGIE STEEL CO., of Pittsburg, Pa., elected at its annual meeting, the following board of managers: H. C. Frick, John G. A. Leishman, W. H. Singer, H. M. Curry, F. T. F. Lovejoy, L. C. Phipps, John Pontefract, Charles M. Schwab and Alex R. Peacock. The two new members, Charles M. Schwab and Alexander R. Peacock, are from the mechanical and sales departments, respectively. The officers of the board are John G. A. Leishman, Pres.; L. C. Phipps, Vice-Pres. and Treas.; F. T. F. Lovejoy, Secy.

JAMES T. WITHEROW, of Pittsburg, has the contract for rebuilding the big Etna Furnace, at Ironton, O., to be operated by the Etna Coal & Iron Co. This work will take about three months. The capacity of the furnace will be 600 tons daily.

THE TRENTON IRON CO., of Trenton, N. J., informs us that among some of the specialties now manufactured by the company, are wire for musical instruments, clock spring wire, umbrella wire, a special grade of high resistance wire for electric heaters, patent locked wire rope, Bleichert patent wire rope for tramways, and a patent bale tie known as the Anchor tie. The company publishes a small book entitled "Wire Rope Transmission in all its Branches," wherein much information of general interest is given on cable hoists and surface and underground haulage plants, the equipments for which are being made by this company.

RIEHLE BROS., Philadelphia, Pa., are constructing for the engineering school of the University of the City of New York one of their standard automatic and autographic testing machines, having a capacity of 200,000 lbs. The machine has been presented to the engineering school by one of its students, Mr. Frank Jay Gould, son of the late Jay Gould.

THE F. D. CUMMER & SON CO., of Cleveland, O., has received an order from the Barber Asphalt Paving Co., of New York, for one of its revolving sand heaters mounted on a railroad car. This car, in addition to the dryer, is also equipped with engine, elevators, sand screen, mixing platform, and will have Westinghouse air-brakes and automatic couplers, and will be constructed so as to withstand the shocks to which it will be subjected as part of an ordinary freight train. This car will be shipped from city to city wherever the Barber Asphalt Paving Co. has contracts for paving. This company is also building a dryer and heater for the Omaha works of the Barber Asphalt Paving Co. Among other sales is a garbage dryer for Kansas City, which is in operation at the works of the Kansas City Fertilizer Co.

THE SNEIL MFG. CO., of Syracuse, N. Y., has gone into the hands of a receiver. The assets are placed at $800,000 and liabilities at $400,000. Mr. Robert Day has been appointed receiver.

THE MILLER SAFETY SHACKLE CO. has been organized at Rockland, Me., with a capital stock of $150,000, and will arrange to handle the Miller patent safety shackle more extensively than was done by the old company. Pres., E. R. Spear; Treas., E. S. Farwell.

THE TRUSS RAIL-JOINT CO., 1020 Rookery Building, Chicago, Ill., has a contract for equipping 22 miles of main track on the Calumet & Blue Island R. R. with the Long spring-truss rail-joint.

THE WARREN FOUNDRY & MACHINE CO., of Phillipsburg, N. J., has received a contract for furnishing New Bedford, Mass., with 4,920 tons of cast-iron water pipe, from 36 to 6 ins. in diameter, and 250 tons of special castings, at a total cost of $115,183.

NEW COMPANIES.—Gilbert Mfg. Co., Middletown Pa.; to manufacture iron and steel; $35,000, with $3,500 paid in; Treas., J. J. Fallenbaum, Middletown, Pa.

The Textile Fibre Co., New York, N. Y.; to manufacture cord rope from cotton fiber; $100,000; George H. Kracht, Alexander Harvey, Wm. Church and others, of New York.

The Spaulding & Pepper Co., Chicopee Falls, Mass., and Brooklyn, N. Y.; to manufacture rubber tires and parts of bicycles; $40,000; Thomas S. Spaulding, Wm. C. Breed, New York, N. Y., and Wm. S. Haskell, Brooklyn, N. Y.

The Revolving Purifier Co., Jersey City, N. J.; to manufacture plants, machinery, apparatus, etc., for purification and filtration of water, sewage and other liquids; $100,000; Lionel Ales-Hankey, New York; Wm. C. Heppenheimer, of Jersey City, N. J.

The Michigan Street Planing Mill Co., Buffalo, N. Y.; $50,000; Frank P. Rung, John C. Dreker and Joseph A. Dietz.

The Farmers' Hedge & Wire Fence Co., Marion, O.; $60,000; Pres., Jacob Wolfinger; Secy., William Ackerman; Treas., F. Hoberman.

The Gas Co. of Erie, Erie, Pa.; to manufacture gas for light; Henry S. Paul, John L. White, of Erie, and Talbot L. Hibbard of Philadelphia.

The Colonial Asphalt Co., Saco, Me., to control and work deposits of asphaltum; $100,0000, with $0 paid in. Pres., Francis S. Hicks, of Dedham, Mass.; Treas., Frank S. Holden, Somerville, Mass.

The Cincinnati Molding Co., Cincinnati, O.; $15,000; Otto Steinborn, F. Voelckel, Martin Manger and others.

The Cripple Creek Chemical Reduction Co., Jersey City, N. J.; to operate in Colorado; $ 0,000, with $1,000 paid in; James Pourtales, R. A. F. Penrose, Jr., and Charles Thurlow, of Colorado Springs, Colo.

The American Chemical Reduction Co., Jersey City, N. J., and Colorado Springs, Colo; $500,000, with $1,000 paid in; James Pourtales, R. A. F. Penrose and Charles Thurlow, of Colorado Springs, Colo.

The Hudson & Essex Terminal Co., Hoboken, N. J.; to construct, build, equip and use any railway track or tracks, bridges, tunnels, etc., build dredges, wharves, etc.; $100,000, with $1,000 paid in; Malcolm W. Niven, Montclair, N. J.; Alexander S. Miers, Glen Ridge, N. J.; and Wm. G. Chittick, Jr., East Orange, N. J.

The Smith Oil and Gas Co., Wheeling, W. Va.; to drill and operate for oil and natural gas; $200,000, with $500 paid in; F. E. McCoy, Wm. R. Wells, Wm. R. Stevenson, of Wheeling, W. Va., and L. M. Stevenson, of New Martinsville, W. Va.

The Hill Oil and Gas Co., Wheeling, W. Va.; to drill for oil, gas and salt wells, etc.; $100,000, with $500 paid in; James A. Hess, C. Mueller and R. E. Schubert, of Wheeling, W. Va.

The Bailey Triple Ledge Gold Mining Co., San Diego, Cal., to construct highways, railroads, electric, steam or other motive power to and from mines; $100,000, all paid in. L. H. Bailey, Banner, Cal.; A. G. Mason, San Diego, Cal.; James A. Jasper, of Ramona, Cal.

The Neward Sand & Quarry Co., Oakland, Cal.; $100,000. G. W. Fletcher, A. Crane, T. C. Kingsland and others.

Bachman Oil & Gas Co., Wheeling, W. Va.; $25,000, with $800 paid in. W. L. Higgs, C. H. Henning, E. V. Harry, of Wheeling, W. Va.

Pittsburg Production Co., Pittsburg, Pa.; to drill for oil, etc.; $60,000, with $450 paid in. R. W. Ingham, H. B. Mosser, W. W. Griffin, of Pittsburg, Pa.

Alpine Mfg. Co., Philadelphia, Pa.; to manufacture machinery, electrical appliances, etc.; $100,000, with $500 paid in. Charles D. Cuzner, Camden, N. J.; Charles J. Fox, John G. Patton, Wm. F. Rice, of Philadelphia.

The Medina Sandstone Co., Medina, N. Y.; $50,000; Michael Slack, of Medina; E. F. Fancher and C. F. Gwynne, of Hulberton; David L. Goodrich, of Albion.

W. A. Rideloch Construction Co., Denver, Colo.; $20,000; Wm. G. Rideloch, James P. Rideloch and Daniel E. Parks.

Murphysboro Shale Brick Co., Murphysboro, Ill.; $30,000; Henry B. Hilgeman, Jacob Leonhardt and W. Andrew Miller.

Chicago & Indianapolis Terminal Co., Chicago, Ill., $50,000; Wm. McDoel, Bayard E. Taylor and Wm. H. Lewis.

The New York & Boston Railroad Construction Co., Keokuk, Ia.; to buy, build and operate all kinds of rail road, steamboat and steamship lines and canals. deal in mines, operate gas and water works etc., etc.; $20,000,000; Pres., Charles Andress, 108 Fulton St., New York, N. Y.; Vice-Pres., Charles V. Gregory, 136 Fulton St., New York, N. Y.; Secy., Charles H. Mitchell, 108 Fulton St., New York, N. Y.

The Moeslin & Crane Ceiling Co., New York, N. Y.; $30,000; Valentine Moeslin, Robert D. Crane, Wm. Menkhoof, of New York City.

The Orange Telephone Co., Newark, N. J., to build a telegraph and telephone line to connect the towns in Essex County; $250,000; Edward P. Chamberlain, Brooklyn, N. Y.; Merrit S. Middleton, Point Pleasant, N. J.; Crales H. Johnson, Jersey City, N. J.

Connellsville Sheet Iron & Tin Plate Co., Connellsville, Pa.; $150,000, with $15,000 paid in; Treas., Geo. J. Humbert, Connellsville, Pa.

The Cochran Co., Johnstown, Pa.; to manufacture iron and steel, pipe, etc.; $50,000, with $5,000 paid in; Treas., Heywood Cochran, Johnstown, Pa.

City Gas Co., Beatrice, Neb.; gas works, electric stations, light, heat, power and manufacturing plants in Gage county; $100,000, with $20,000 paid in; John E. Smith, Albert S., and F. J. Maxwell, Beatrice, Neb.

The Metropolitan Real Estate & Improvement Co., Camden, N. J.; to grade, pave, lay out streets, erect buildings, wharves, piers, etc.; $100,000, with $1,000 paid in; F. C. Harris, Camden, N. J.; S. E. Byers and P. C. Ambrose, of Philadelphia, Pa.

The W. & P. Armored Tire Co., Syracuse, N. Y.; to manufacture the Warson and Pickett patent armored vehicle and bicycle tire in Buffalo; $100,000; Martin L. Warson, Kensington, N. Y.; Edward F. Pickett, Buffalo, N. Y.; and Thomas S. Fielding, of New York city.

Duquesne Oil Co., Pittsburg, Pa., to mine, drill and operate for petroleum oil and gas; $12,000, with $1,200 paid in; Treas., C. J. Farrar, 714 Lewis Block.

The Worth Bros. Co., Coatesville, Pa.; to manufacture iron and steel; $250,000, with $25,000 paid in. Treas., W. P. Worth, Coatesville, Pa.

The Degnon Construction Co., Cleveland, O.; to build electric railways, erect buildings, waterworks, paving work, bridges, etc.; $200,000; M. J. Degnon, E. W. Radder, W. P. Johnson and Wm. H. Miller, of Cleveland.

The Hotchkiss Ordnance Co., of America, Norfolk, Va.; to manufacture munitions of war; not less than $125,000, or more than $1,000,000; Pres., Alfred De Buye, of New York; Vice-Pres., John B. Summerfield, of Brooklyn; Secy. and Treas., Charles H. Gulick, of Washington, D. C.

The American Guarantee Co., Norfolk, Va.; to manufacture ordnance of all kinds, guns, torpedoes, etc.; not less than $125,000, or more than $2,000,000; Pres., Wm. J. Bouff, New York city; Vice-Pres., Wm. Stevens, Brooklyn, N. Y.; Secy. and Treas., Alfred De Buye, New York city.

The Empire Traction Co., of New York, N. Y.; $100,000; Henry L. Scheverman, Frank H. Knight, Henry W. Moyer, New York city; Homer R. Scoville, Brooklyn, and Samuel S. Slater, Arlington, N. J.

The National Automatic Car Fender Co., of St. Louis, Mo.; $125,000; Henry Moser, C. H. Hofmeister, D. P. Shields and Jesse A. Graham.

The Acme Machine Screw Co., of Hartford, Conn.; $10,000;; E. C. Fenn, Bloomfield, Conn.; R. Hakewessel, Hartford, Conn.; A. W. Henn, Cleveland, O.

The E. B. Merrill Spring Co., of New York city; $50,000; E. B. Merrill, Wm. C. Merrill and John D. Merrill, of New York.

The Wallis-Lispenard Construction Co., of New York city; to construct machines for picking and handling cotton; $10,000; Joseph E. Hoffman, S. A. Hamel, of New York; George Lispenard, Brooklyn, N. Y.L

The Cavadotta Chemical Co., of Gloversville, N. Y.; to manufacture ammonia and its compounds, oils, grease, and glue; $10,000; Henry Belin, Jr., Scranton, Pa.; Eugene Dupont, H. Belin Dupont, and others, of Wilmington, Del.; Arthur C. Lotz, of Gloversville, N. Y.

The Columbia Car Coupler Co., of Atchison, Kan.; $150,000; P. I. Backus, C. I. Backus, C. W. Miller, R. R. Herd and R. A. Park, of Atchison, Kan.

California Travertine Co., of San Francisco, Cal.; $1,000,000, with $5,000 paid in; to mine travertine, construct roads and railroads, etc.; Leon Kauffman, Lazare Kline, Charles R. Eager and Edward P. Gray, of San Francisco.

The Sullivan Estate Co., of San Francisco, Cal.; to deal in stocks, construct water-warks, generate electricity, etc.; $1,000,000, with $900 paid in; Francis J., Charles A., Frances V., Henriette, and Emmet V. Sullivan, all of San Francisco.

The American Mutoscope Co., of Jersey City, N. J.; $2,000,000; George H. Lawman, Greenwich, Conn.; Wm. C. Smith, Brooklyn, N. Y., and James Fielder, of Jersey City, N. J.

The Chesapeake Cycle Co., Baltimore, Md.; $5,000; James A. Shipley, Charles H. Porter, George H. Will and others.

The Harris Automatic Press Co., Niles, O., $100,000; H. K. Taylor, Youngstown, O.; George D. Kirkman, Warren, O.; C. G. Harris, Niles, O.

The Denver Rolling Mill & Iron Co., Denver, Colo.; $10,000; A. Goodstein, J. Goodstein and A. Gruenitz, of Denver.

The Mitchell Heater Co., Poughkeepsie, N. Y.; to manufacture water or steam heaters; $50,000; Charles Mitchell, F. B. Lown, Lewis H. Vail and others, of Poughkeepsie.

The Indiana Construction Co., Jersey City, N. J., and Chicago, Ill.; to construct railways, build bridges, viaducts, etc.; $100,000, all paid in; James Miles, Ralph Martin Shaw, Walter B. Smith, and others, of Chicago, Ill., and Robert S. Green, Elizabeth N. J.

The Keystone Boiler Works, San Francisco, Cal.; $200,000, all paid in; James Hamilton, John M. Morse, John M. Hunter, of San Francisco, Cal., and William Leach, Oakland, Cal.

Elmore Hand Rock Drill Co., Clinton, Ia., $100,000. R. Palmer Elmore, W. J. Young, Jr., H. P. Dickinson, and H. W. Seaman.

The Hudson River Oxygen Co., Newark, N. J., to make and sell fuel compounds; $100,000; William M. Keane, Philemon Tompkins, and John A. McGown, of Newark, and Barrett Shatz, of New York City.

Whitney Elevator & Warehouse Co., Rochester, N. Y.; $100,000; James W. Whitney, Rufus K. Dyer, and A. Ericson Perkins, of Rochester.

The Menough & Potter Co., New York City; to manufacture architectural iron work and machinery and iron and steel forgings; $50,000; James M. Potter, Joseph J. Morgan and Reginald Steel, of New York.

The West End Rolling Mill Co., Lebanon., Pa.; to manufacture iron and steel in all forms; $100,000, with $10,000 paid in; Treas., H. M. Capp, Lebanon, Pa.

The Producers' Oil Co., Pitsburg, Pa.; to transport crude oil and gas by pipe line; $20,000, with $2,000 paid in; Treas., George H. Torrey, Oil City, Pa.

The Hecla Co., Jersey City, N. J., and Akron, O.; to manufacture forgings, hardware, etc.; $100,000, with $40,000 paid in; Cornelius S. Van Wagoner, Cleveland, O.; Christian P. Stork, Jersey City, N. J., and John J. Teeple, Brooklyn, N. Y.

The Dominion Pulverizer Co., New York City and Halifax, N. S.; to manufacture pulverizing machines under patents held by the company; $150,000; Benjamin R. Blanchard, Newtonville, Mass.; F. M. Bruner, Brooklyn, N. Y., and Marshal W. Van Winkle, Jersey City, N. J.

The Globe Extracting Co., Jersey City, N. J., to manufacture machinery for cleaning and scouring wool, cotton, etc.; $500,000; Addison B. Poland, Jersey City; William T. Cutter, East Lyme, Conn.; Chas. J. Luce, Niantic, Conn.

The Metropolitan Gas Light & Heating Co., Akron, O.; $5,000; Frank W. Little, John A. Artley, R. W. Sadler and others, of Akron.

The Findlay Axe & Tool Co., Findlay, O.; $12,000; R. M. Abbott, Frank C. Brown, Thomas I. Oram and R. E. Abbott, of Findlay.

The Gage Bolin Mfg. Co., Dayton, O.; to manufacture and sell the Gagel and Bolin compound distributor as an attachment to steam boilers; $10,000; John G. Gagel, Hezekiah M. Bolin, Elihu Thompson, Henry M. Gagel and A. J. Gagel, of Dayton.

The Corns Iron & Steel Co., Massillon, O.; to manufacture iron and steel in all forms; $50,000; James C., Martha P. and Sarah A., Corns; Joseph C. Adams and Elizabeth J. Adams, of Massillon.